DINI ARGEO®
Scales - Weighing systems

DFW • DFWL

www.**diniargeo**.com

⌂ CONTENTS

CONTENTS BY TOPIC

1. INTRODUCTION AND WARNINGS

This product represents the best solution for multi-function weighing applications, offering ease of use, high precision in reading the weight and many functions to speed-up and simplify everyday work.

This manual provides an overview of the product's potentials: through the configuration menu, you can adapt the product functionality to the weighing application to be realised.

⚠ WARNINGS:

- Do not make repairs or replace electronic components of the instrument boards.
- Only use original spare parts.
- Any tampering with the equipment or use of non-original spare parts voids the warranty and relieves the manufacturer of any liability.
- Before any installation or repair that involves access to electronic parts, turn off the device and disconnect any source of power supply (battery, 230V network or other).
- Always use network power supply sources regulated within ± 10% of the rated voltage;
- In applications in connection with third parties, always follow the specifications given on the approval decree of the equipment.
- Do not immerse in water.
- Do not wash with water jets (except versions with specific IP protection degree).
- Protect from direct rainfall (except versions with specific IP protection degree).
- Do not use aggressive cleaning solvents or substances.
- Do not install in potentially explosive environments.
- Earth connect any earth socket located on the equipment casing, using a cable with a diameter of at least 16 mm2.

2. TECHNICAL FEATURES

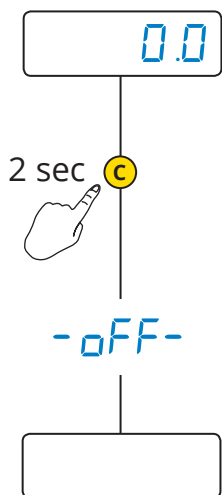| Power supply via mains / Battery charger		110-230Vac
MAX consumption		5W
Analog channels for reading of load cells		4
Managed / displayed scales		1
Connectable cells		8 da 350 Ohm
Load cells power supply		5V
Maximum load cells power supply current		120mA
Maximum operating temperature range CE-M - OIML		-10°C + 40°C
Maximum operating temperature range		-10°C + 60°C LCD/-20°C + 60°C LED
OIML divisions		10000e 3x3000e
Divisions for internal use		100d ... 1.000.000d
Optional Digital relays (only for DFW family)	Number	2 / 4
	Features	48 Vac, 60 Vdc,15 mA, 10 Ω Max
Optional Digital inputs (only for DFW family)	Number	2 / 4
	Features	12 / 24 Vdc, 5:20 mA
Optional analog output (only for DFW family)		0:10 Vdc, 0:20 mA
Serial ports		2

3. APPROVAL

a.

b.

c.

d.

e.
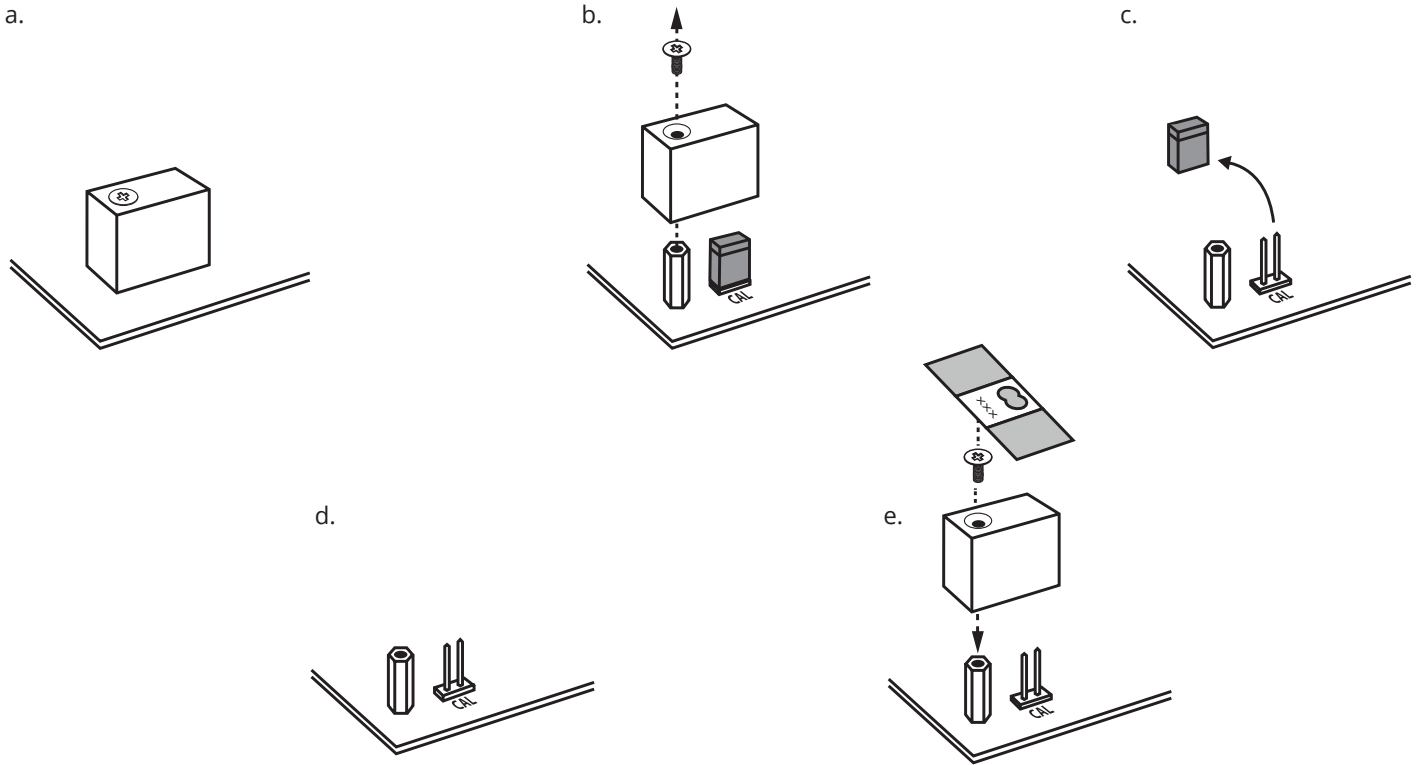
How to display the metrological version of the instrument

1. Turn off the scale

0.0

2 sec **C**

-oFF-

2. Follow the procedure:

C Turn on the scale and press the key ↑ during display of the power messages.

888888

↑

NAH

...

0.0

HH.HH — Metrological version

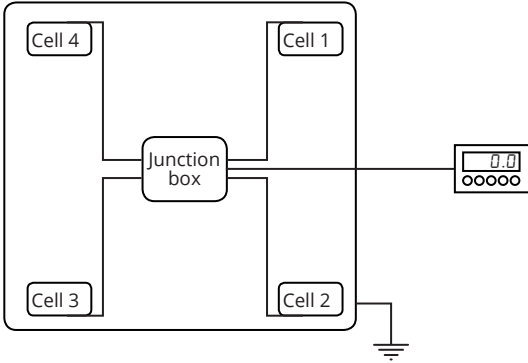HH.HH.HH — Weighing program version

...

0.0
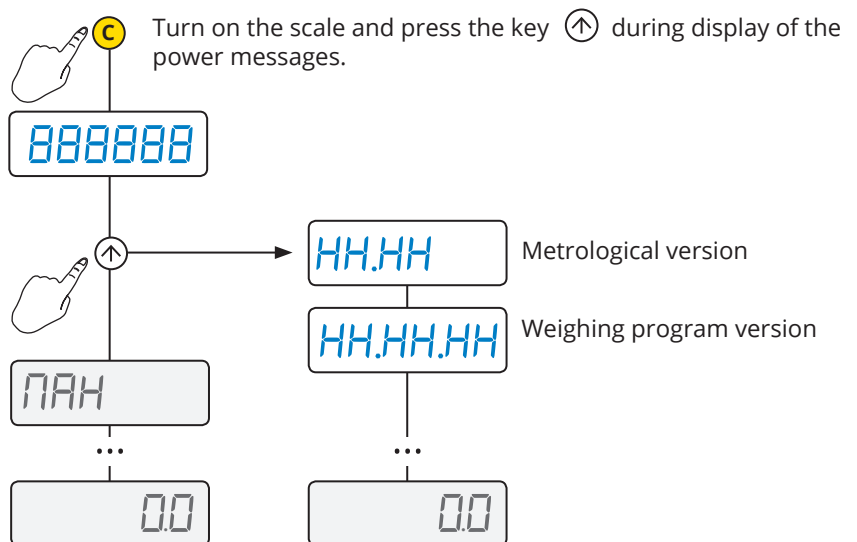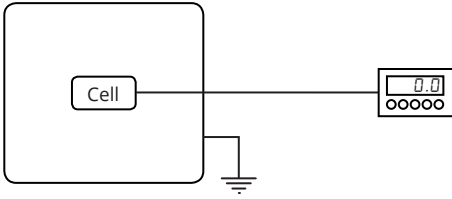
4. CONNECTIONS

Single channel

Connect the scale to the main terminal board using the first reading channel of the A/D converter.

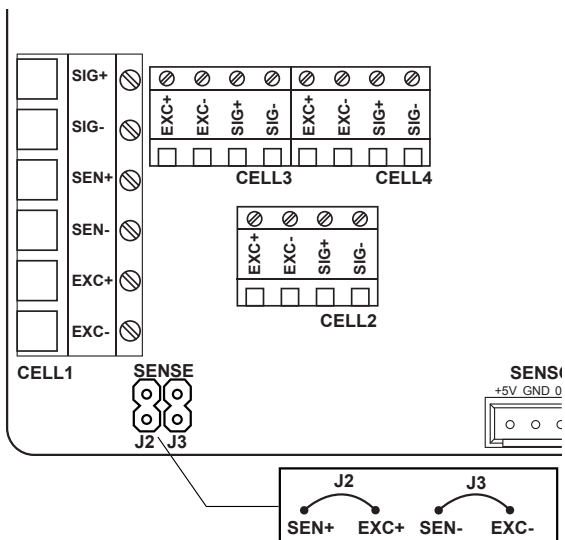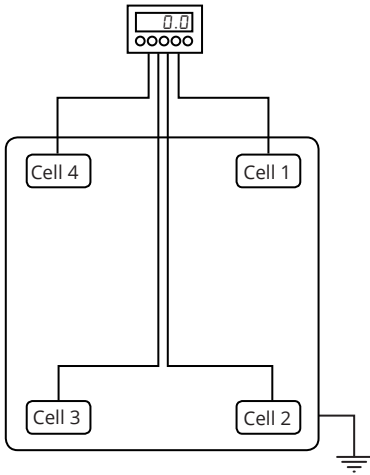**Terminal board of reference for connection to 1 channel**

NOTES:
- For connection with 6 wires with "Sense", remove jumpers J2 and J3.
- For connection with 4 wires, install jumpers J2 and J3.

⚠️ **WARNING:**

Make the connections with indicator off and feeder disconnected. Comply with the electronic specifications indicated in the table on page 4
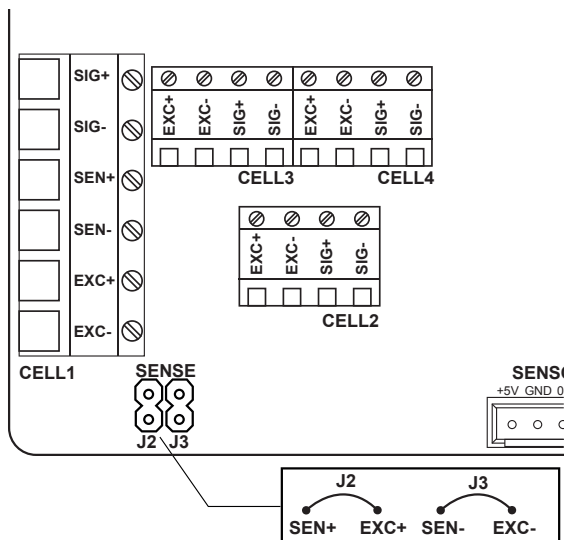
Multichannel with digital equalisation

You can use the 4 channels of the converter to connect 2, 3 or 4 cells, digitally equalising them without using junction boxes.

Terminal boards of reference for connection to 4 channels

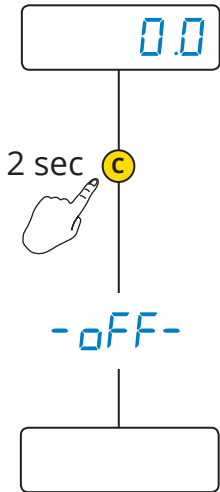**NOTES:**
- Install jumpers J2 and J3.

5. PROGRAMMING

How to access the programming menu

1. Turn off the scale

```
0.0
```

2 sec **C**

```
-oFF-
```

2. Follow the procedure:

C Press the key ↑ during display of the power messages.

```
888888
```

↑ ⟶ **PROGRAMMING MENU**

```
NAH
```
...
```
0.0
```
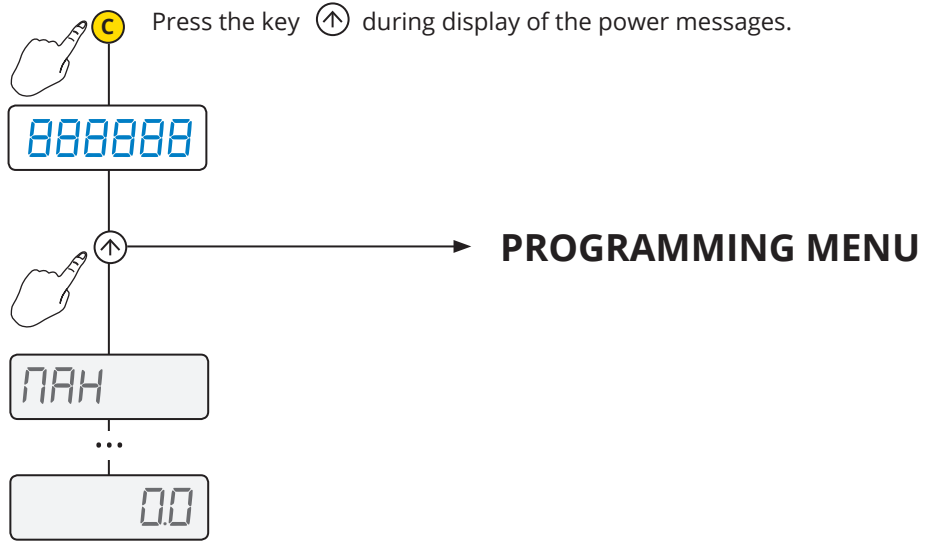
How to save the programming and exit the menu

To save the programming changes made, repeatedly press the key **C** browsing the menu in reverse, until the message *SAUE?* appears: press ↵ to save or **C** to exit without saving.

Example *(read from right to left)*:

Save and exit
↵

```
888888
```
```
NAH
```
...
```
0.0
```

C

Cancel and exit

SAUE? ← **C** ← LAYout ← **C** ← AdUAnC ← **C** ← NodE

⚙ PROGRAMMING MENU

👁̸ *Parameter visible only in certain conditions.*   **M🔒** *Parameter or menu subject to approval.*

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊼	💾
2. On ⏻	↓ = ⊽	
3. ⊼	→ = ⏎	
ⓘ Page 8	← = C	ⓘ Page 8

A **CAL**
B **O.CAL** → 1 **d iU**
C **GrAU**
D **SEr iAL**
E **LAYout**
F **F iLtEr**
G **SCrEEn**
H **bAtt**
I **ECo.bAt**
J **AutoFF**
K **rEMotE**
L **An.out**
M **inPutS**
N **outPut**
O **rESEt**
P **d iAG**
Q **AdUAnC**

🏠 ⚙

CAL Quick calibration ✎

Start of the calibration procedure:
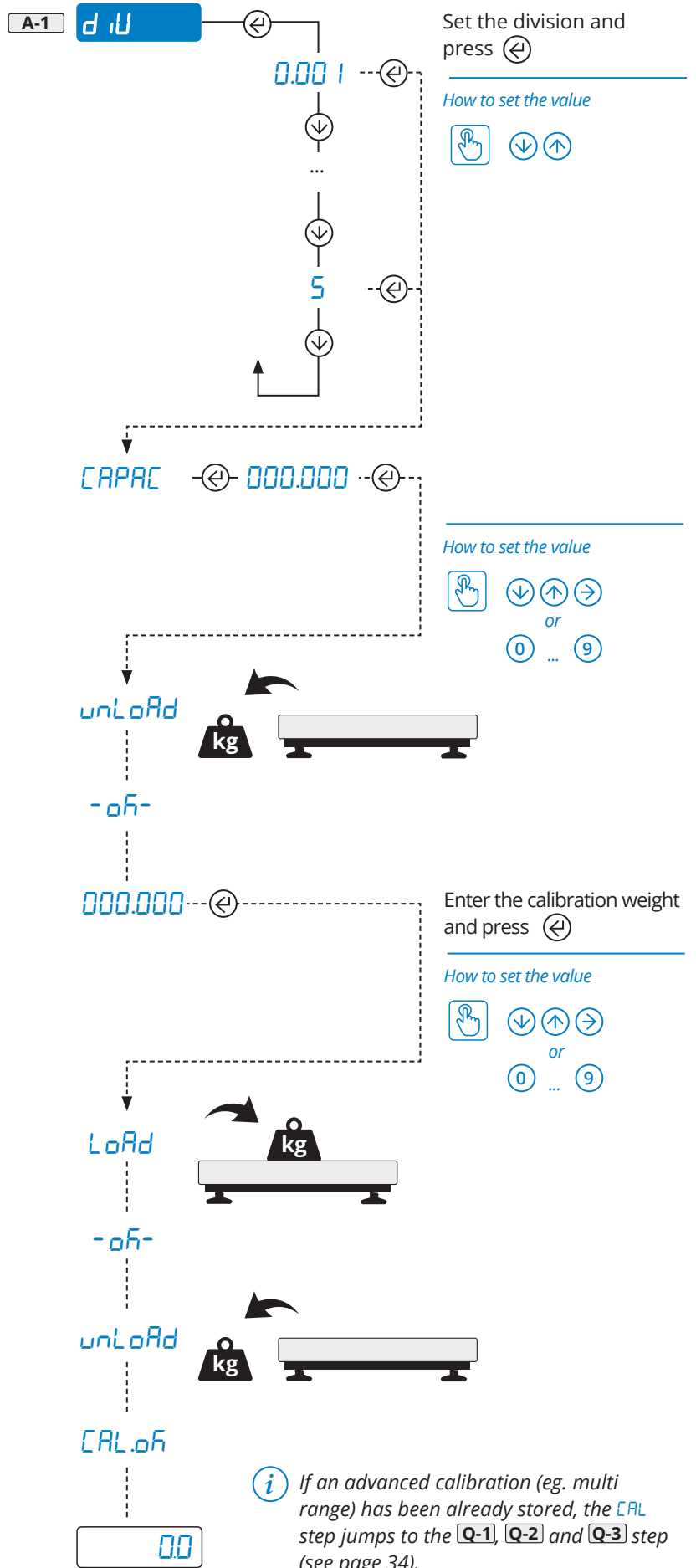
A-1 **d iU** ⟵

0.001 ⏎

...

⊽

5 ⏎

Set the division and press ⏎

How to set the value
👆 ⊽ ⊼

CAPAC ⏎ *000.000* ⏎

How to set the value
👆 ⊽ ⊼ →
or
0 ... 9

unLoAd 🏋kg

- or -

000.000 ⏎

Enter the calibration weight and press ⏎

How to set the value
👆 ⊽ ⊼ →
or
0 ... 9

LoAd 🏋kg

- or -

unLoAd 🏋kg

CAL.oK

0.0

ⓘ *If an advanced calibration (eg. multi range) has been already stored, the* CAL *step jumps to the* **Q-1**, **Q-2** *and* **Q-3** *step (see page 34).*

A CAL
B O.CAL
C GrAU
D SEr iAL
E LAYout
F F iLtEr
G SCrEEn
H bAtt
I ECo.bAt
J AutoFF
K rEMotE
L An.out
M inPut5
N outPut
O rESEt
P d iAG
Q AdUAnC

O.CAL   Reset of the Pre-Tare   M🔒

Acquisition of the zero point

B [O.CAL] ‑‑⏎‑‑ SurE? ‑⏎‑‑ ‑ oh‑
[GrAU] ◄‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑
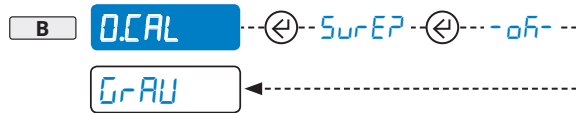
GrAU   Area of gravity of the place of use   M🔒

Once the calibration is completed, for proper operation set the area of use in this pitch (if different from that of calibration).

C [GrAU] ‑⏎‑ 9.80390 ‑⏎‑‑
[SEr iAL] ◄‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑‑
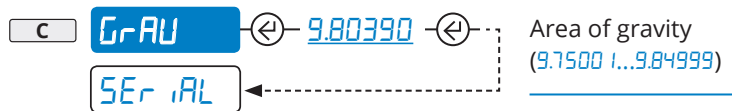
Area of gravity
(9.75001...9.84999)

How to set the value

👆 ⊻ ⊼ ➝
     _or_
     ⓪ ... ⑨

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⟮↑⟯	💾
2. On ⏻	↓ = ⟮↓⟯	
3. ⟮↑⟯	➡ = ⟮↵⟯	
ⓘ Page 8	⬅ = Ⓒ	ⓘ Page 8

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout` — **1** `CoN.PC`
F `FiLtEr` — **2** `CoN.Prn` — **1** `NodE`
G `SCrEEn` — **3** `AdUAnC` — **2** `CoN.SEL`
H `bAtt` — **3** `bAud`
I `ECo.bAt` — **4** `bit`
J `AutoFF`
K `rENotE`
L `An.out`
M `inPutS`
N `outPut`
O `rESEt`
P `diAG`
Q `AdUAnC`

SErIAL   Configuration of the serial ports ✎
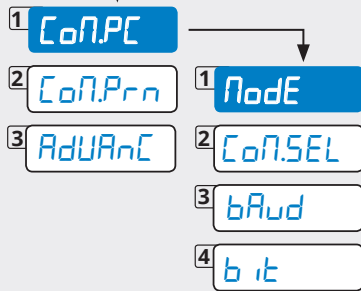
CoN.PC   Communication with PC, PLC or Repeater

Selection of the communication mode

D-1-1 `NodE` ⟮↵⟯

`ondE` ⟮↵⟯	On request (*)
`485` ⟮↵⟯ `00` ⟮↵⟯	On request with code 485 (0...99)
`Cont in` ⟮↵⟯	Continuous transmission (8 tx /sec)
`StAbLE` ⟮↵⟯	Automatic stability transmission
`Print.h` ⟮↵⟯	Transmission when pressing ⟮↵⟯
`rEPE b` ⟮↵⟯	For repeater
`r.AdC` ⟮↵⟯	For use by the manufacturer

`CoN.SEL`
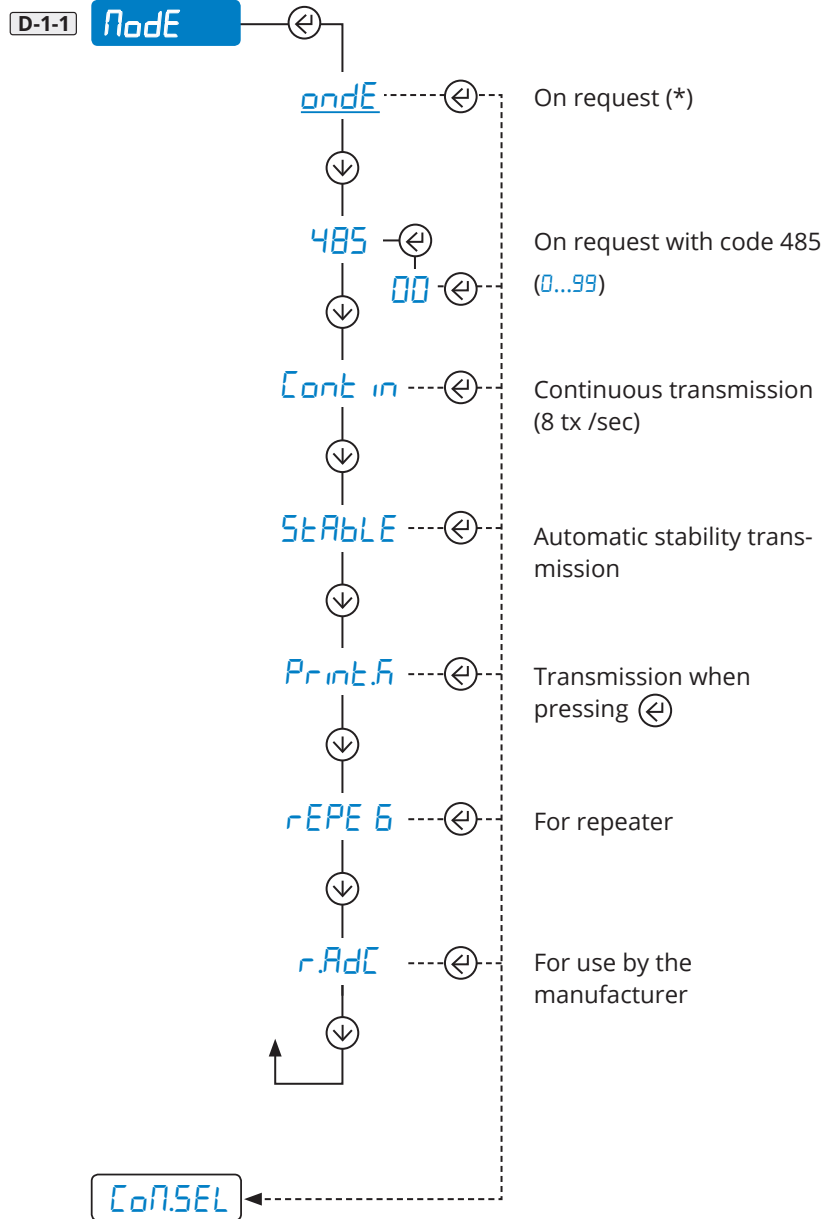
ⓘ *For communication strings and controls, see page 41 - 42.*

ⓘ For the string selection, see step **D-3-1**.

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = Ⓐ	💾
2. On ⏻	↓ = Ⓥ	
3. Ⓐ	→ = ↵	
ⓘ Page 8	← = Ⓒ	ⓘ Page 8

A CAL
B O.CAL
C GrAU
D SErIAL
E LAYout → **1** CoN.PC
F FILtEr → **2** CoN.Prn → **1** NodE
G SCrEEn → **3** AdUAnC → **2** CoN.SEL
H bAtt → **3** bAud
I ECo.bAt → **4** bIt
J AutoFF
K rENotE
L An.out
M InPutS
N outPut
O rESEt
P dIAG
Q AdUAnC

🏠 ⚙️
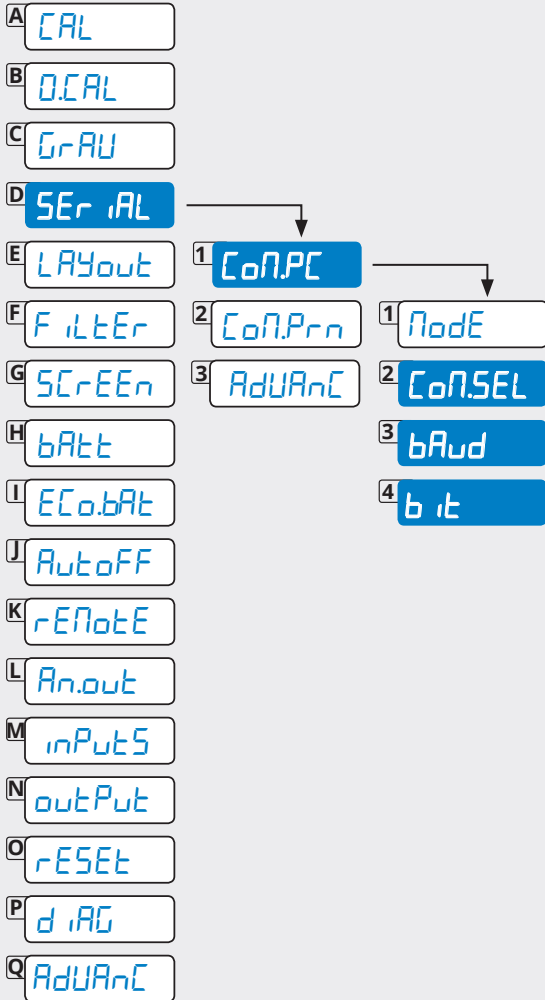
Selecting the COM port for connection with PC/PLC
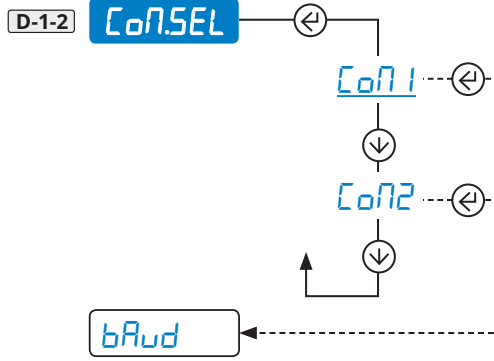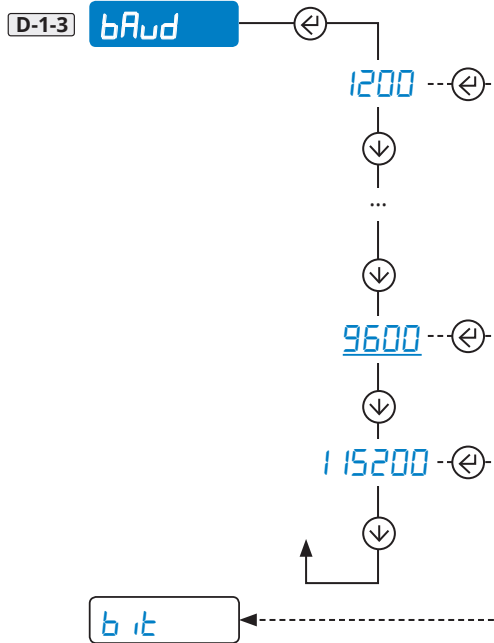
D-1-2 CoN.SEL ↵
→ CoN1 ↵
↓
CoN2 ↵
↓
bAud

Communication speed (Baud rate)

D-1-3 bAud ↵
→ 1200 ↵
↓
...
↓
9600 ↵
↓
115200 ↵
↓
bIt

Configuration of the serial protocol

D-1-4 bIt ↵
→ n.8.1 ↵
↓
n.8.2 ↵
↓
... ↵
↓
E.7.2 ↵
↓
NodE

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout` **1** `CoN.PC`
F `FiLtEr` **2** `CoN.Prn`
G `SCrEEn` **3** `AdUAnC` **1** `NodE`
H `bAtt` **2** `bAud`
I `ECo.bAt` **3** `bit`
J `AutoFF` **4** `CtS`
K `rENotE` **5** `PoUEr.P`
L `An.out`
M `inPutS`
N `outPut`
O `rESEt`
P `diAG`
Q `AdUAnC`

🏠 ⚙

`SErIAL` **Configuration of the serial ports**
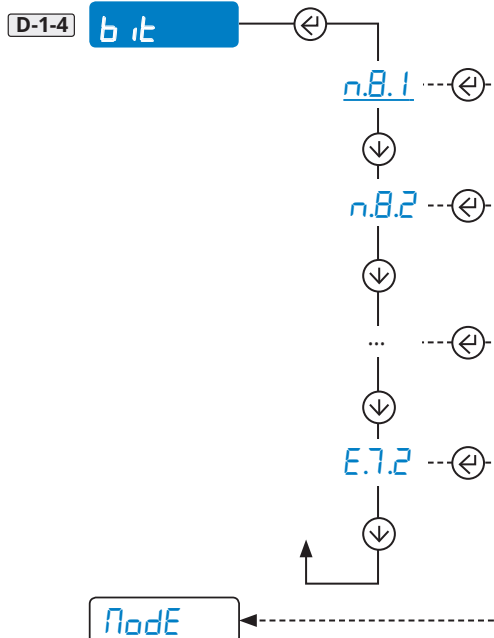
`CoN.Prn` **Communication with printer or repeater or PC** ✎

Selection of the communication mode

D-2-1 `NodE` ⏎

`tiCKEt` ---- ⏎ Thermal printer

⊽

`LAbEL` ---- ⏎ Labelling machine

⊽

`Cont in` ---- ⏎ Continuous transmission (8 tx /sec)

⊽

`StAbLE` ---- ⏎ Automatic stability transmission

⊽

`to PC` ---- ⏎ Manual transmission of string for PC when pressing ⏎

⊽

`rEPE.6` ---- ⏎ For repeater

⊽
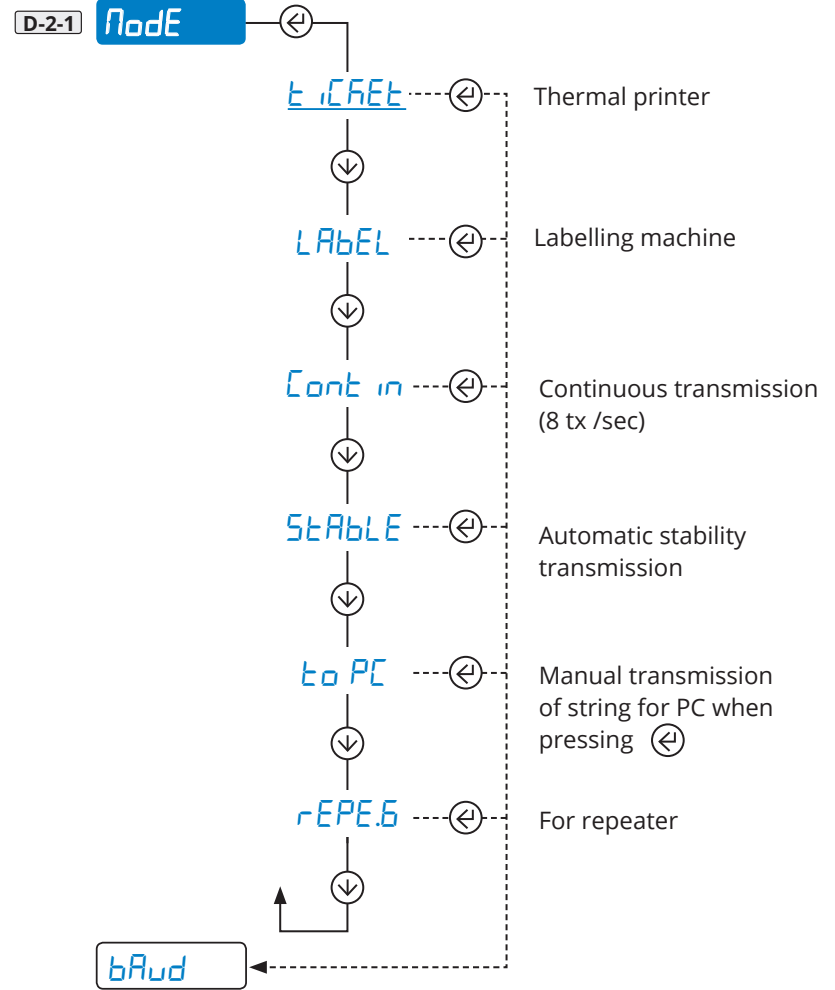
`bAud`

ⓘ *For communication strings and controls, see page 41 - 42.*

Communication speed (Baud rate)
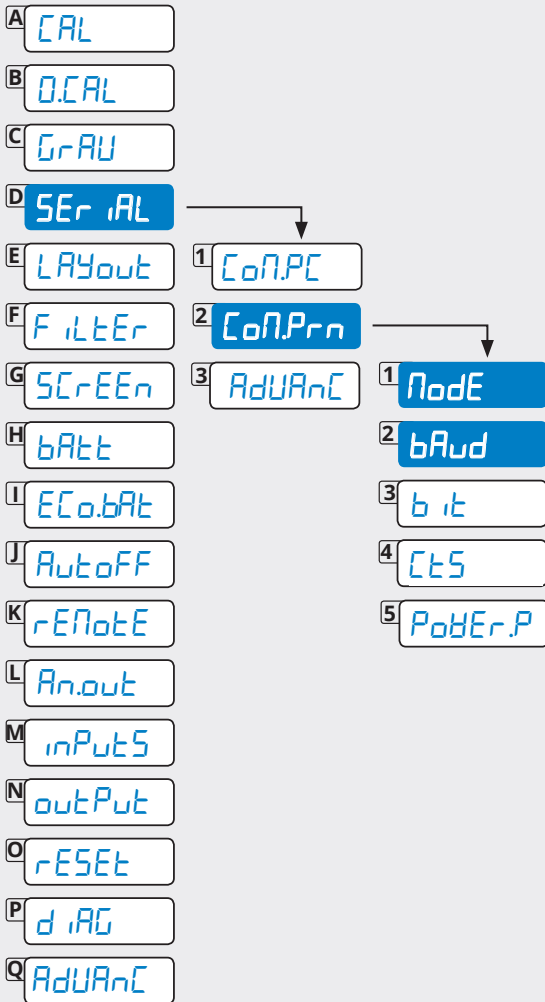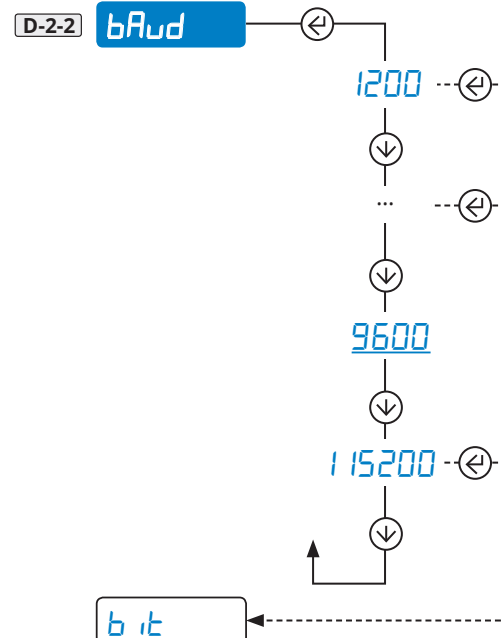
D-2-2 `bAud` ⏎

`1200` ---- ⏎

⊽

... ---- ⏎

⊽

`9600`

⊽

`115200` ---- ⏎

⊽

`bit`

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊙	💾
2. On ⏻	↓ = ⊙	
3. ⊙	→ = ⊙	
ⓘ Page 8	← = Ⓒ	ⓘ Page 8

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout` → **1** `CoN.PC`
F `FiLtEr` **2** `CoN.Prn` → **1** `NodE`
G `SCrEEn` **3** `AdUAnC` → **2** `bAud`
H `bAtt` **3** `bIt`
I `ECo.bAt` **4** `CtS`
J `AutoFF` **5** `PoWEr.P`
K `rENotE`
L `An.out`
M `InPutS`
N `outPut`
O `rESEt`
P `dIAG`
Q `AdUAnC`

🏠 ⚙️

Configuration of the serial protocol

D-2-3 `bIt` ⊙
- `n.8.1` ⊙
- `n.8.2` ⊙
- ...
- `E.7.2` ⊙

`CtS`

Printer control signal

D-2-4 `CtS` ⊙
- `no` ⊙
- `LoW` ⊙
- `hIGh` ⊙
- `EnuL` ⊙ — Free adjustment
  - `nChAr` --- `000` Characters sent ⊙ (0...999)
  - `tINE` ----- `000` ----- ⊙ Sending time out (0...9999)
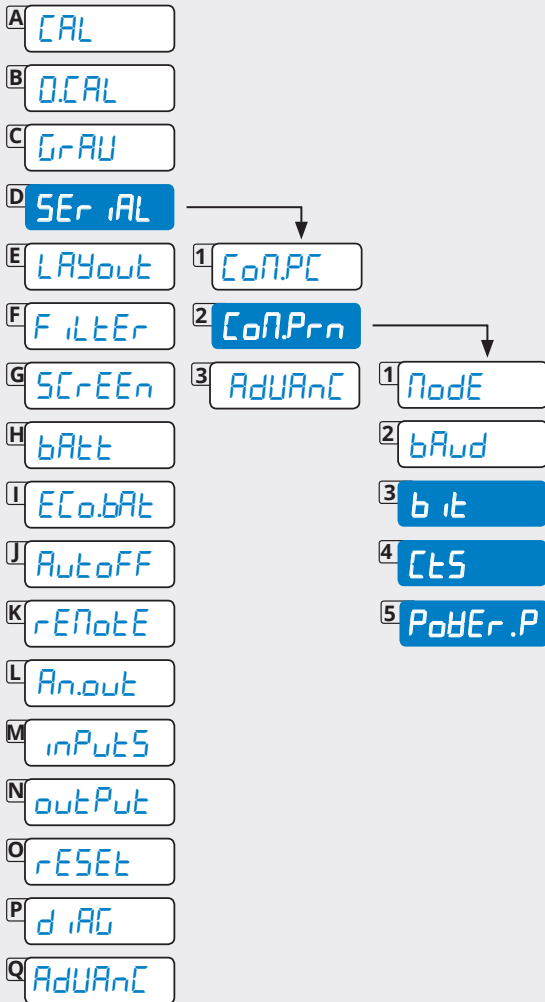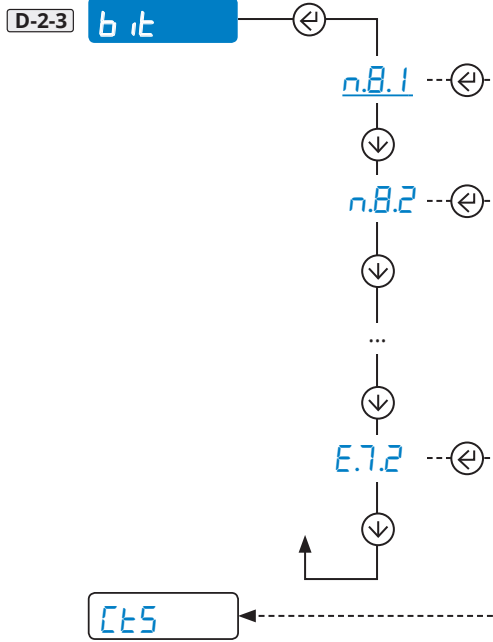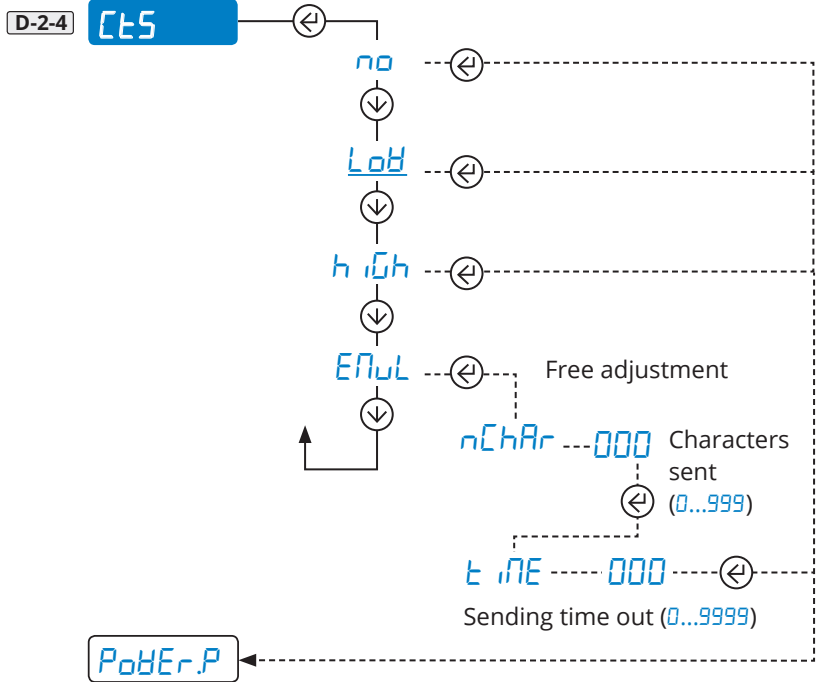
`PoWEr.P`

Printer power supply / Radio-frequency module
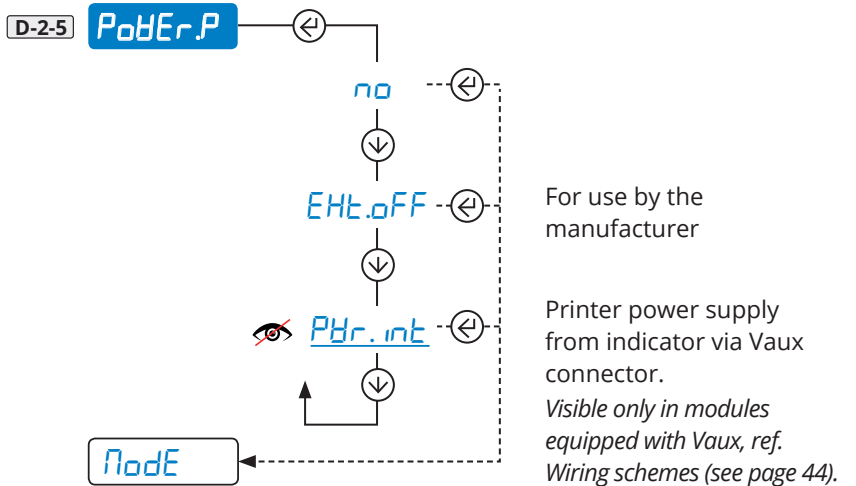
D-2-5 `PoWEr.P` ⊙
- `no` ⊙
- `EHt.oFF` ⊙
- 👁️‍🗨️ `PWr.int` ⊙

`NodE`

For use by the manufacturer

Printer power supply from indicator via Vaux connector.
Visible only in modules equipped with Vaux, ref. Wiring schemes (see page 44).

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⌃	💾
2. On ⏻	↓ = ⌄	
3. ⌃	→ = ⏎	
ⓘ Page 8	← = **C**	ⓘ Page 8

- **A** CAL
- **B** O.CAL
- **C** GrAU
- **D** SErIAL
  - **1** CoN.PC
  - **2** CoN.Prn
  - **3** AdUAnC
    - **1** ProtoC
    - **2** rAdio
    - **3** ttL.tIL
    - **4** tErN
- **E** LAYout
- **F** FILtEr
- **G** SCrEEn
- **H** bAtt
- **I** ECo.bAt
- **J** AutoFF
- **K** rENotE
- **L** An.out
- **M** inPutS
- **N** outPut
- **O** rESEt
- **P** dIAG
- **Q** AdUAnC

🏠 ⚙

SErIAL Configuration of the serial ports

AdUAnC Advanced configurations ✏

Communication protocol

D-3-1 ProtoC ⏎

- EHtEnd ⏎
- Short ⏎
- rAdio
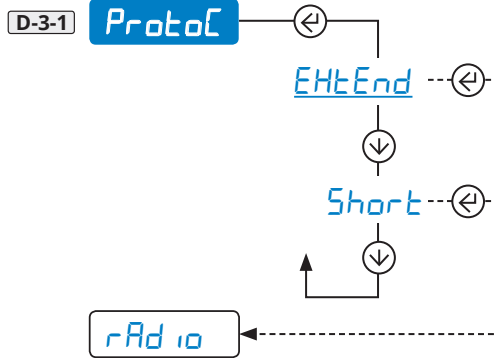
> ⓘ *For communication strings and controls, see page 41 - 42.*

Connection port of radio-frequency module (for use by the manufacturer)

D-3-2 rAdio ⏎

- oFF ⏎
- CoN1 ⏎ → C 0...7 * ⏎
- CoN2 ⏎
- ttL.tIL
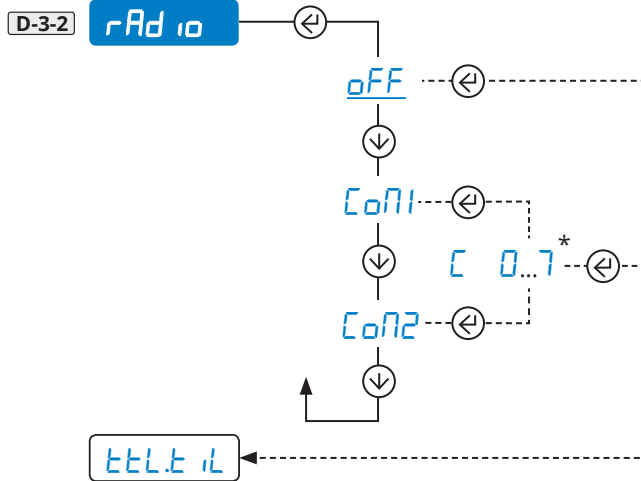
*Selection of the radio channel.

TTL port / Inclinometer activation (for use by the manufacturer)

D-3-3 ttL.tIL ⏎

- no ⏎
- YES ⏎
- tErN
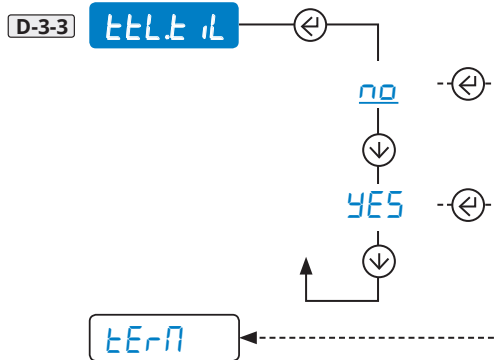
> 👁 *Only for DFWL models.*

Closing character of each print line

D-3-4 tErN ⏎

- Cr ⏎
- CrLF ⏎
- ProtoC

MENU

A	CAL
B	D.CAL
C	GrAU
D	SErIAL
E	**LAYout**
F	F iLtEr
G	SCrEEn
H	bAtt
I	ECo.bAt
J	AutoFF
K	rEMotE
L	An.out
M	inPutS
N	outPut
O	rESEt
P	d iAG
Q	AdUAnC

1	LAnG
2	ChAr
3	hEAdEr
4	dAtA
5	HE iGhS
6	t iCHEt
7	CLoCH
8	bArC.39
9	bArC.uP
10	bArC.L
11	bArC.h
12	bArC.dt
13	CoP iES
14	End.t iC
15	b.L inE
16	LAbEL
17	Lb.SAUE
18	tESt

🏠 ⚙

LAYout Print customisation ✎
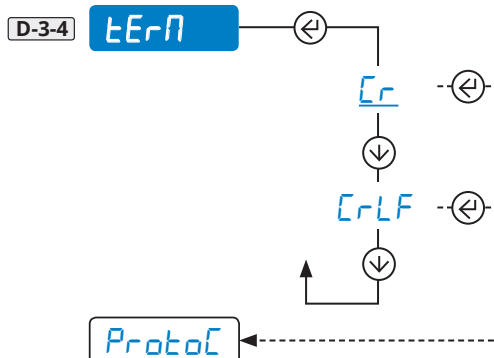
Parameters for receipt/label mode
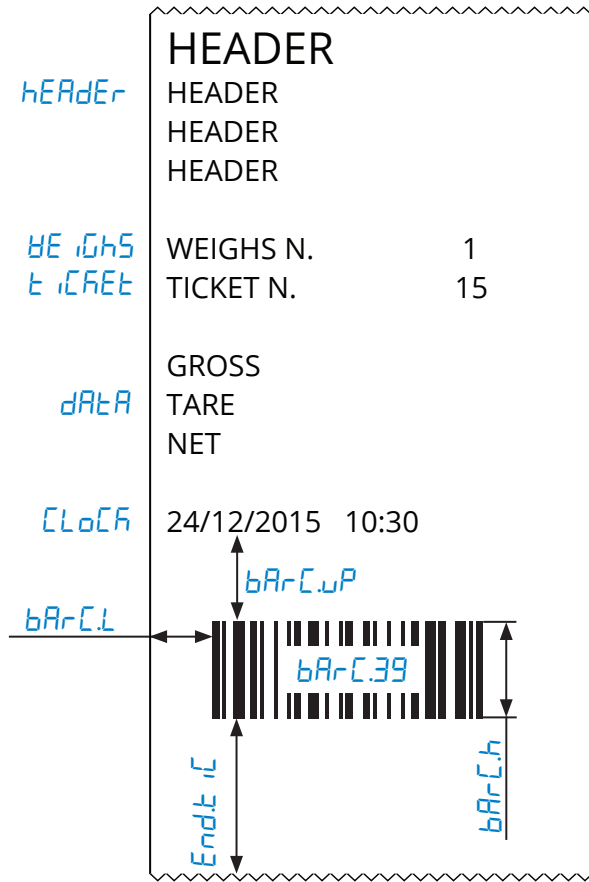
Additional parameters for label mode

MENU

How to enter
1. Off ⏻
2. On ⏻
3. ⬆
ⓘ *Page 8*

How to browse
⬆ = ⬆
⬇ = ⬇
➡ = ⏎
⬅ = **C**

How to save and exit
💾
ⓘ *Page 8*

A	CAL
B	O.CAL
C	GrAU
D	SErIAL
E	LAYout
F	FILtEr
G	SCrEEn
H	bAtt
I	ECo.bAt
J	AutoFF
K	rEMotE
L	An.out
M	InPutS
N	outPut
O	rESEt
P	dIAG
Q	AdUAnC

1	LAnG
2	ChAr
3	hEAdEr
4	dAtA
5	HEIGhS
6	tICrEt
7	CLoCh
8	bArC.39
9	bArC.uP
10	bArC.L
11	bArC.h
12	bArC.dt
13	CoPIES
14	End.tIC
15	b.LInE
16	LAbEL
17	Lb.SAUE
18	tESt

1	ChAr 1
2	ChAr 2

🏠 ⚙

Setting of the print language (ItAL , EnGL , dEut , FrAn , ESPA , ChInES)
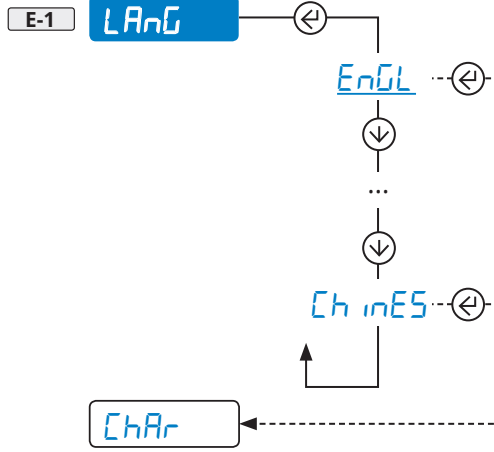
E-1 LAnG ⏎

EnGL ⏎
⬇
...
⬇
ChInES ⏎

ChAr

Character dimensions
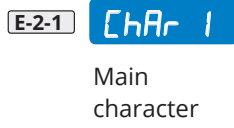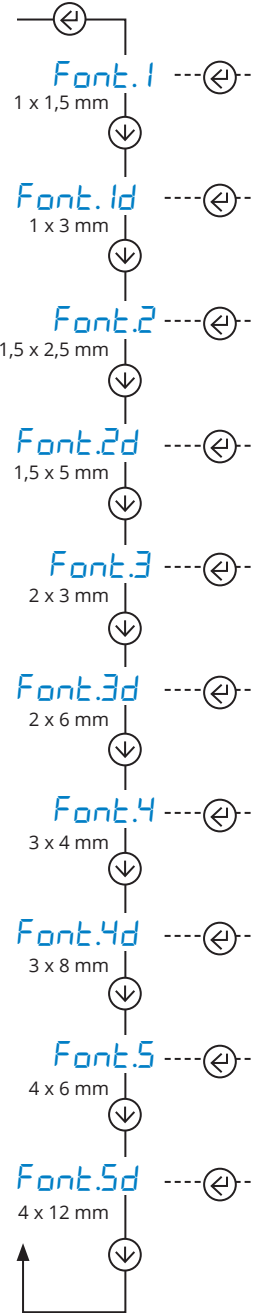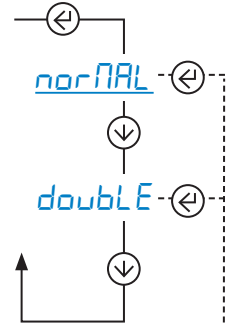
E-2-1 ChAr 1

Main character

Label mode ⏎

Font.1 ⏎
1 x 1,5 mm
⬇

Font.1d ⏎
1 x 3 mm
⬇

Font.2 ⏎
1,5 x 2,5 mm
⬇

Font.2d ⏎
1,5 x 5 mm
⬇

Font.3 ⏎
2 x 3 mm
⬇

Font.3d ⏎
2 x 6 mm
⬇

Font.4 ⏎
3 x 4 mm
⬇

Font.4d ⏎
3 x 8 mm
⬇

Font.5 ⏎
4 x 6 mm
⬇

Font.5d ⏎
4 x 12 mm
⬇

ChAr 2

Receipt mode ⏎

norMAL ⏎
⬇

doublE ⏎
⬇

E-2-2 ChAr 2   See ChAr 1

MENU

A CAL	
B O.CAL	
C GrAU	
D SErIAL	
E LAYout	**1** LAnG
F FILtEr	**2** ChAr
G SCrEEn	**3** hEAdEr
H bAtt	**4** dAtA
I ECo.bAt	**5** WEIGhS
J AutoFF	**6** tICREt
K rEMotE	**7** CLoCR
L An.out	**8** bArC.39
M InPutS	**9** bArC.uP
N outPut	**10** bArC.L
O rESEt	**11** bArC.h
P dIAG	**12** bArC.dt
Q AdUAnC	**13** CoPIES
	14 End.tIC
	15 b.LInE
	16 LAbEL
	17 Lb.SAUE
	18 tESt

Header sub-items (3 hEAdEr):
1 EnAbLE
2 LInE 1
3 LInE 2
4 LInE 3
5 LInE 4

🏠 ⚙

LAYout Print customisation

hEAdEr Print header ✏

Enables header printing

E-3-1 EnAbLE ⏎

- no
- YES — Only 1st totalisation
- totAL — Only upon each totalisation
- ALWAYS — Also in total

→ LInE 1
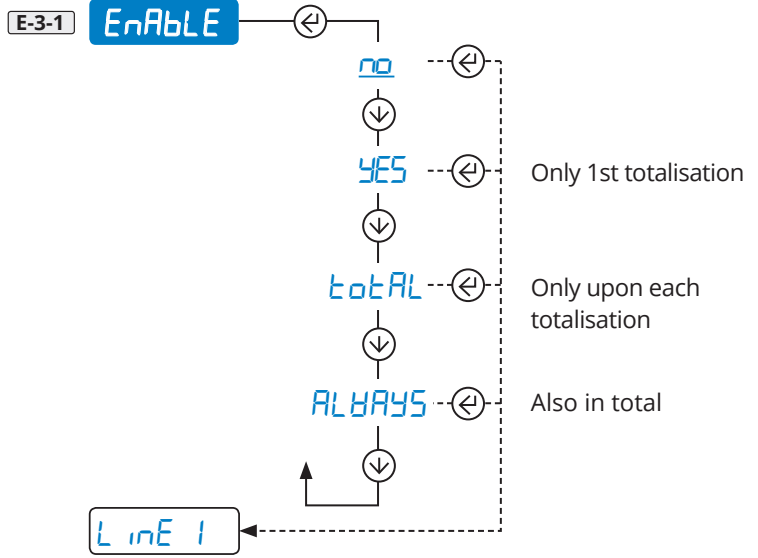
Contents of the header lines

E-3-2 LInE 1 ⏎   First row of header

- no 👁 *Visible only in* LInE 2, LInE 3 e LInE 4
- ChAr 1
- ChAr 2
- 01 032 ⏎ 032* ⏎ — Enter the first character
- 02 032 ⏎ 032* ⏎ — Enter the second character
- ... ⏎ 032* ⏎
- 24 032 ⏎ 032* ⏎ — Enter the last character

→ LInE 2

How to set the value

👆 ⬇ ⬆ ➡
or
0 ... 9
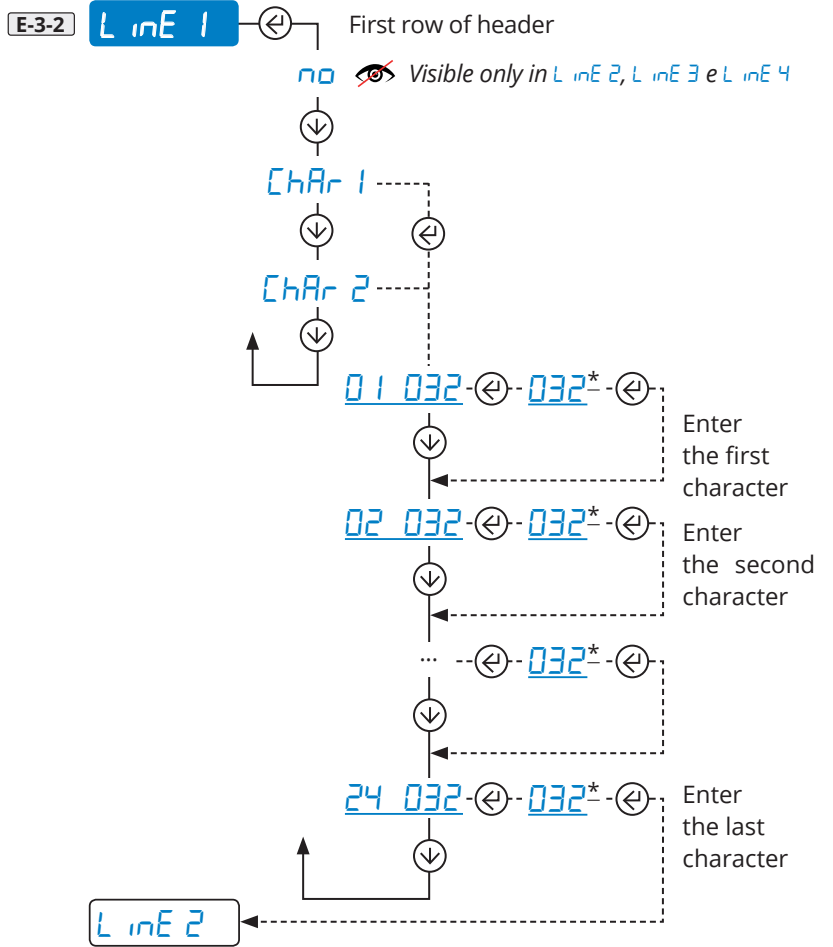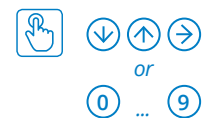
ⓘ Repeat the operation to program LInE 2, LInE 3 and LInE 4.
Select no to disable them.

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊼	💾
2. On ⏻	↓ = ⊻	
3. ⊼	→ = ↵	
ⓘ Page 8	← = C	ⓘ Page 8

A CAL
B O.CAL
C GrAU
D SErIAL
E LAYout
F FILtEr
G SCrEEn
H bAtt
I ECo.bAt
J AutoFF
K rEMotE
L An.out
M InPutS
N outPut
O rESEt
P dIAG
Q AdUAnC

1 LAnG
2 ChAr
3 hEAdEr
4 dAtA
5 HEIGhS
6 tIChEt
7 CLoCh
8 bArC.39
9 bArC.uP
10 bArC.L
11 bArC.h
12 bArC.dt
13 CoPIES
14 End.tIC
15 b.LInE
16 LAbEL
17 Lb.SAUE
18 tESt

1 EnAbLE
2 LInE 1
3 LInE 2
4 LInE 3
5 LInE 4

🏠 ⚙

How to print/delete the row being programmed

01 032

02 032 --→-- dELEtE --↵---- -oh- --- Delete the header row

Print --↵-- -oh- --- Print the header row

03 032

...

Programming example

01 032 ---↵- 072 * -↵-   H

02 032 --↵-- 069 * -↵-   E

03 032 --↵-- 076 * -↵-   L

04 032 --↵-- 076 * -↵-   L

05 032 --↵-- 079 * -↵-   O

06 032 --↵-- 032 * -↵-

...

24 032 --↵-- 032 * -↵-

HELLO

How to set the value

👆 ⊻ ⊼ →

or

⓪ ... ⑨
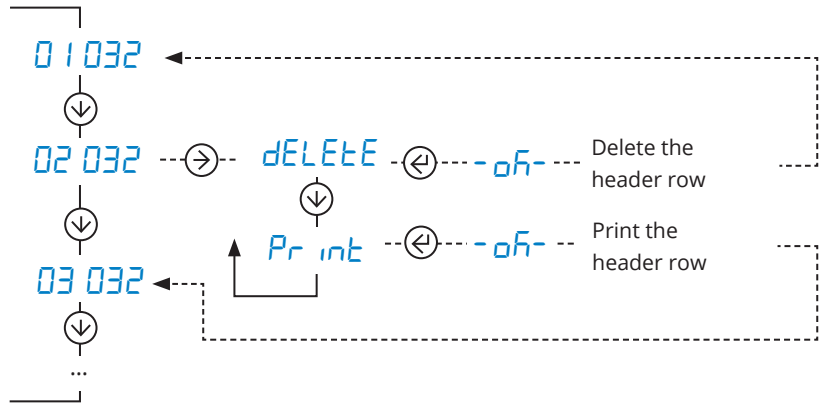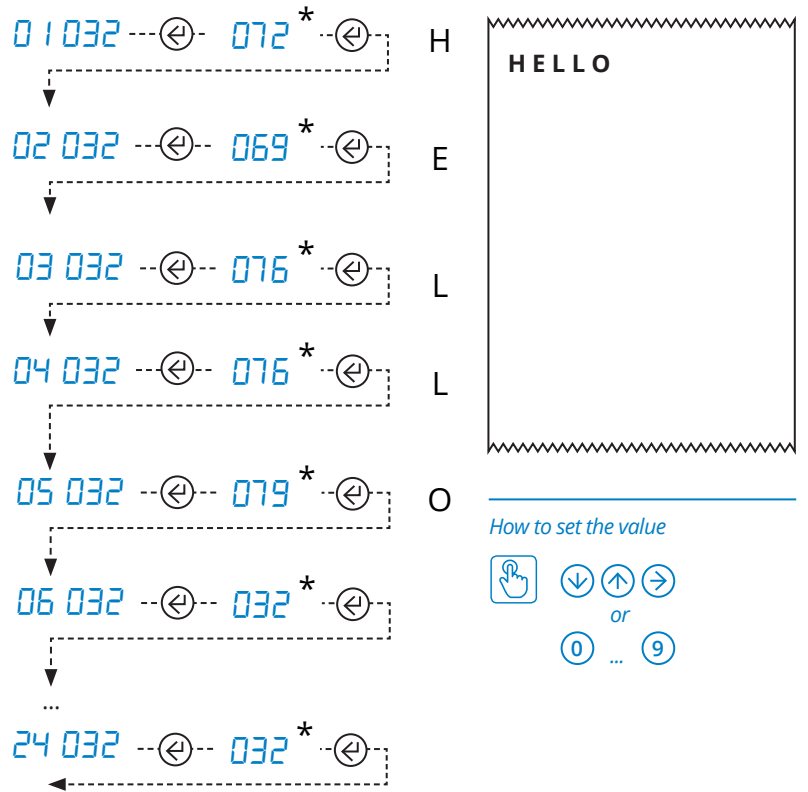
List of characters (*)

32		47	/	62	>	77	M	92	\	107	k	122	z
33	!	48	0	63	?	78	N	93	]	108	l	123	{
34	"	49	1	64	@	79	O	94	^	109	m	124	|
35	#	50	2	65	A	80	P	95	_	110	n	125	}
36	$	51	3	66	B	81	Q	96	'	111	o	126	~
37	%	52	4	67	C	82	R	97	a	112	p		
38	&	53	5	68	D	83	S	98	b	113	q		
39	'	54	6	69	E	84	T	99	c	114	r		
40	(	55	7	70	F	85	U	100	d	115	s		
41	)	56	8	71	G	86	V	101	e	116	t		
42	*	57	9	72	H	87	W	102	f	117	u		
43	+	58	:	73	I	88	X	103	g	118	v		
44	,	59	;	74	J	89	Y	104	h	119	w		
45	-	60	<	75	K	90	Z	105	i	120	x		
46	.	61	=	76	L	91	[	106	j	121	y		

MENU

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout`
F `FILtEr`
G `SCrEEn`
H `bAtt`
I `ECo.bAt`
J `AutoFF`
K `rEMotE`
L `An.out`
M `inPutS`
N `outPut`
O `rESEt`
P `dIAG`
Q `AdUAnC`

1 `LAnG`
2 `ChAr`
3 `hEAdEr`
4 `dAtA`
5 `UEIGhS`
6 `tICHEt`
7 `CLoCH`
8 `bArC.39`
9 `bArC.uP`
10 `bArC.L`
11 `bArC.h`
12 `bArC.dt`
13 `CoPIES`
14 `End.tIC`
15 `b.LInE`
16 `LAbEL`
17 `Lb.SAUE`
18 `tESt`

Selection of the weight data

E-4 `dAtA` → ⏎ → `GroSS` → ⏎ → `YES` ⏎
⊽ → `no` ⏎

`tArE` → ⏎ → `YES` ⏎
⊽ → `no` ⏎

`nEt` → ⏎ → `YES` ⏎
⊽ → `no` ⏎

`UEIGhS`

Progressive weighed

E-5 `UEIGhS` → ⏎
`no` ⏎
⊽
`YES` ⏎   On each weigh ticket only
⊽
`SuM` ⏎   On total ticket only
⊽
`ALUAYS` ⏎   Both tickets
⊽
`tICHEt`
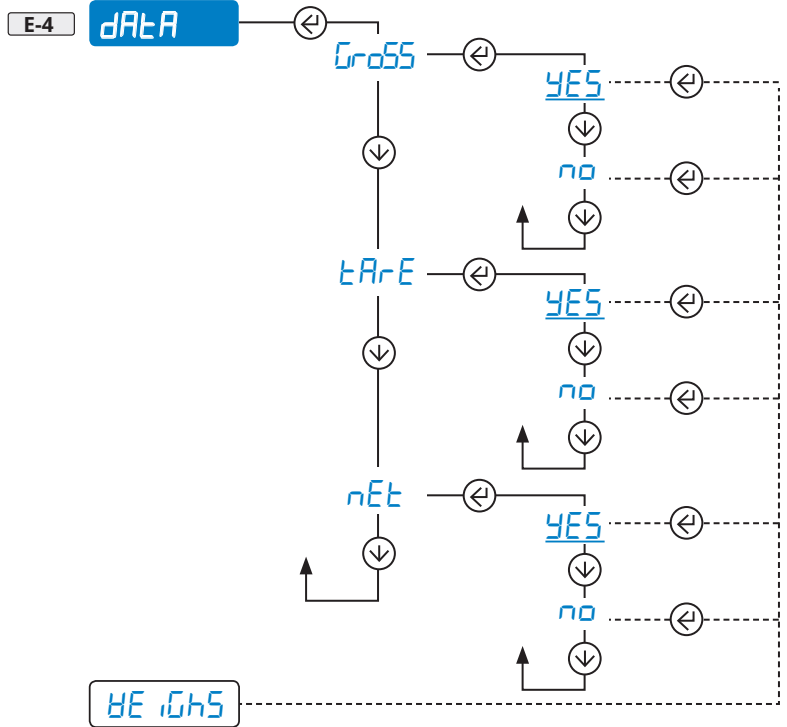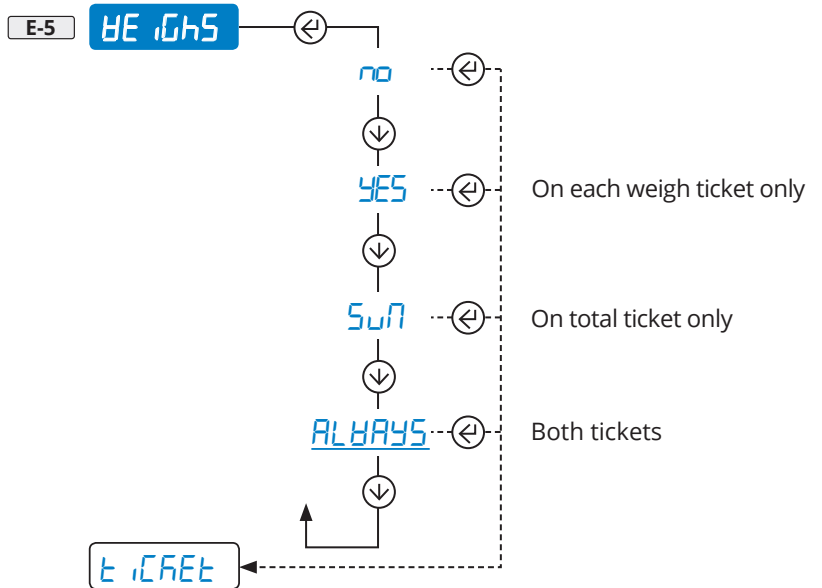
Receipt/label progressive
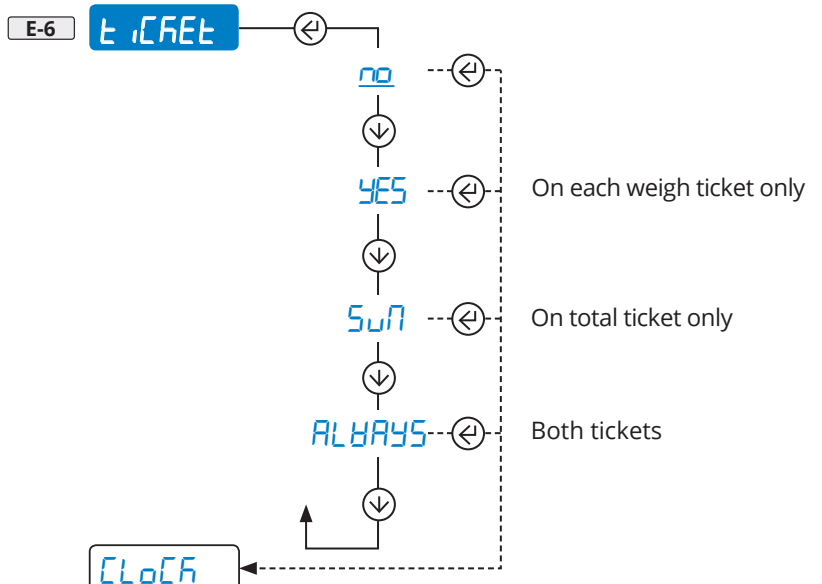
E-6 `tICHEt` → ⏎
`no` ⏎
⊽
`YES` ⏎   On each weigh ticket only
⊽
`SuM` ⏎   On total ticket only
⊽
`ALUAYS` ⏎   Both tickets
⊽
`CLoCH`

🏠 ⚙

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊼	💾
2. On ⏻	↓ = ⊻	
3. ⊼	→ = ⏎	
ⓘ Page 8	← = **C**	ⓘ Page 8

- **A** CAL
- **B** O.CAL
- **C** GrAU
- **D** SErIAL
- **E** LAYout
  - **1** LAnG
  - **2** ChAr
  - **3** hEAdEr
  - **4** dAtA
  - **5** HEIGhS
  - **6** tICkEt
  - **7** CLoCk
  - **8** bArC.39
  - **9** bArC.uP
  - **10** bArC.L
  - **11** bArC.h
  - **12** bArC.dt
  - **13** CoPIES
  - **14** End.tIC
  - **15** b.LInE
  - **16** LAbEL
  - **17** Lb.SAUE
  - **18** tESt
- **F** FILtEr
- **G** SCrEEn
- **H** bAtt
- **I** ECo.bAt
- **J** AutoFF
- **K** rEMotE
- **L** An.out
- **M** InPutS
- **N** outPut
- **O** rESEt
- **P** dIAG
- **Q** AdUAnC

🏠 ⚙️

Date and time

E-7 CLoCk ⏎

- no ⏎
- YES ⏎ — On each weigh ticket only
- SuN ⏎ — On total ticket only
- ALWAYS ⏎ — Both tickets

→ bArC.39

Bar code 39

E-8 bArC.39 ⏎

- no ⏎
- YES ⏎ — On each weigh ticket only
- SuN ⏎ — On total ticket only
- ALWAYS ⏎ — Both tickets

→ bArC.uP
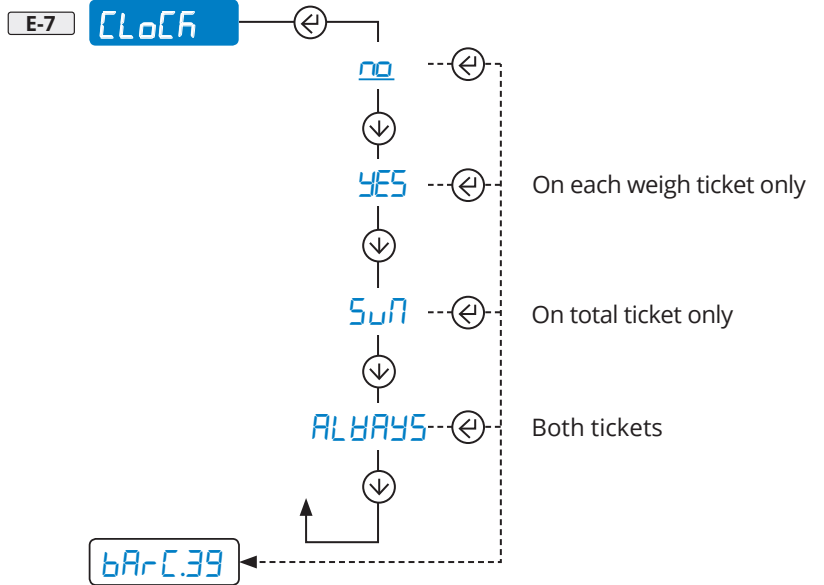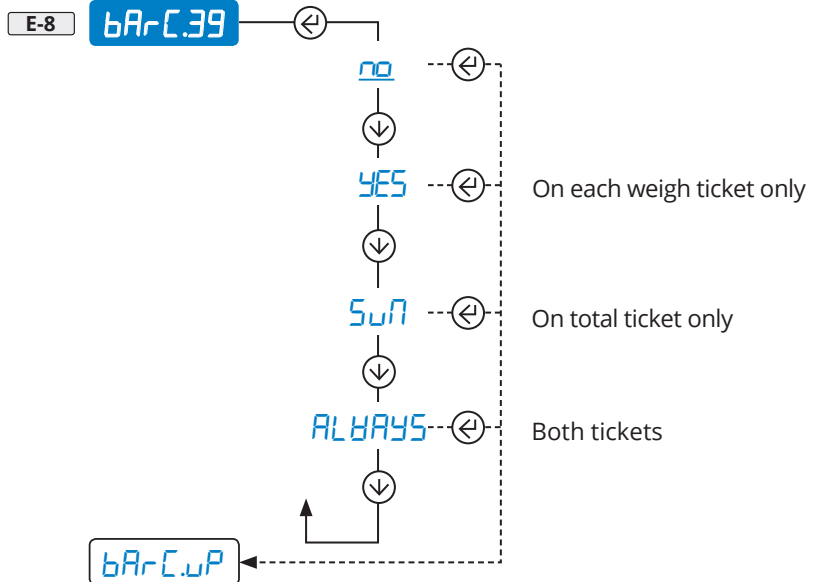
Barcode top margin (mm)
👁️‍🗨️ *Visible only if bArC.39 (E-8) is active*

E-9 bArC.uP ⏎ 000 ⏎
bArC.L

If NodE=tICkEt (0...9)
If NodE=LAbEL (0...999)
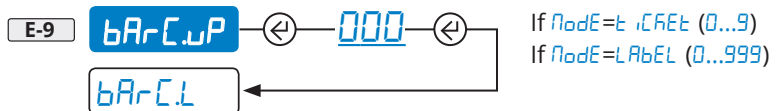
Barcode left margin (mm)
👁️‍🗨️ *Visible only if bArC.39 (E-8) is active*

E-10 bArC.L ⏎ 00 ⏎
bArC.h

If NodE=tICkEt (1...99)
If NodE=LAbEL (0...99)
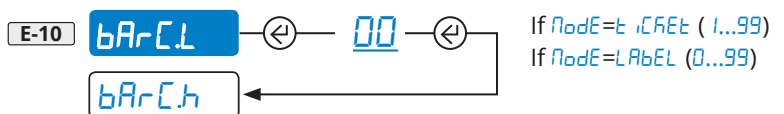
Barcode height (mm)
👁️‍🗨️ *Visible only if bArC.39 (E-8) is active*
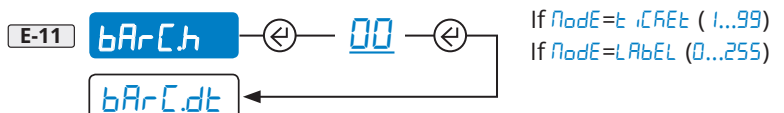
E-11 bArC.h ⏎ 00 ⏎
bArC.dt

If NodE=tICkEt (1...99)
If NodE=LAbEL (0...255)

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⟰	💾
2. On ⏻	↓ = ⟱	
3. ⟰	→ = ⏎	
ⓘ Page 8	← = C	ⓘ Page 8

A	CAL
B	O.CAL
C	GrAU
D	SErIAL
E	**LAYout**
F	FiLtEr
G	SCrEEn
H	bAtt
I	ECo.bAt
J	AutoFF
K	rEMotE
L	An.out
M	inPutS
N	outPut
O	rESEt
P	dIAG
Q	AdUAnC

1	LAnG
2	CHAr
3	hEAdEr
4	dAtA
5	UEIGhS
6	tiCREt
7	CLoCH
8	bArC.39
9	bArC.uP
10	bArC.L
11	bArC.h
12	**bArC.dt**
13	**CoPiES**
14	**End.tiC**
15	**b.LinE**
16	LAbEL
17	Lb.SAUE
18	tESt

Selection of the weight data

👁̸ *Visible only if* bArC.39 *(E-8) is active*

E-12 bArC.dt ⏎

GroSS ⏎
↓
nEt ⏎
↓
tArE ⏎
↓
CoPiES

Multi-copy prints

E-13 CoPiES ⏎ n_1...3 ⏎
End.tiC
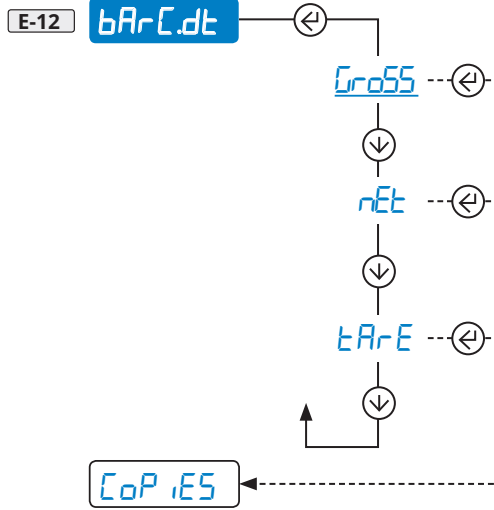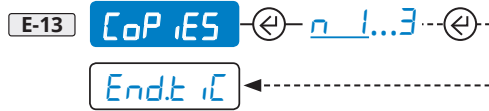
Paper outlet for end of label/receipt

E-14 End.tiC ⏎

no ⏎
↓
YES ⏎ — On each weigh ticket only
↓
SuM ⏎ — On total ticket only
↓
ALUAYS ⏎ — Both tickets
↓
b.LinE
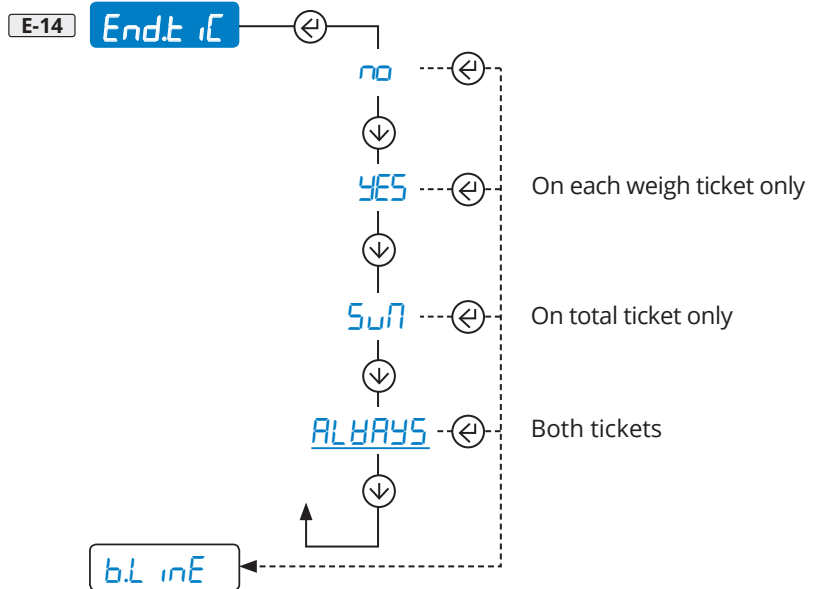
White pre-heating line of the print head
(for thermal printer only)

E-15 b.LinE ⏎

no ⏎
↓
YES ⏎
↓
LAbEL

23

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊼	💾
2. On ⏻	↓ = ⊽	
3. ⊼	→ = ⏎	
ⓘ Page 8	← = C	ⓘ Page 8

A CAL
B O.CAL
C GrAU
D SErIAL
E LAYout
F FILtEr
G SCrEEn
H bAtt
I ECo.bAt
J AutoFF
K rEMotE
L An.out
M InPutS
N outPut
O rESEt
P dIAG
Q AdUAnC

1 LAnG
2 ChAr
3 hEAdEr
4 dAtA
5 HEIGhS
6 tICREt
7 CLoCR
8 bArC.39
9 bArC.uP
10 bArC.L
11 bArC.h
12 bArC.dt
13 CoPIES
14 End.tIC
15 b.LInE
16 LAbEL
17 Lb.SAUE
18 tESt

Label configuration   👁̸ *Visible only if* NodE (D-2-1) = LAbEL

E-16 LAbEL ⏎

- WIdth ⏎ **063** ⏎ — Dimension (w) (0...999)
- hEIGht ⏎ **080** ⏎ — Dimension (h) (0...999)
- uP.MArG ⏎ **010** ⏎ — Top margin (mm) (0...999)
- L.MArG ⏎ **06** ⏎ — Left margin (mm) (0...99)
- PEEL ⏎
  - YES ⏎ — Peeler
  - no ⏎
- GAP ⏎ **3** ⏎ — Gap between labels (mm) - (0...7)

Lb.SAUE ◄
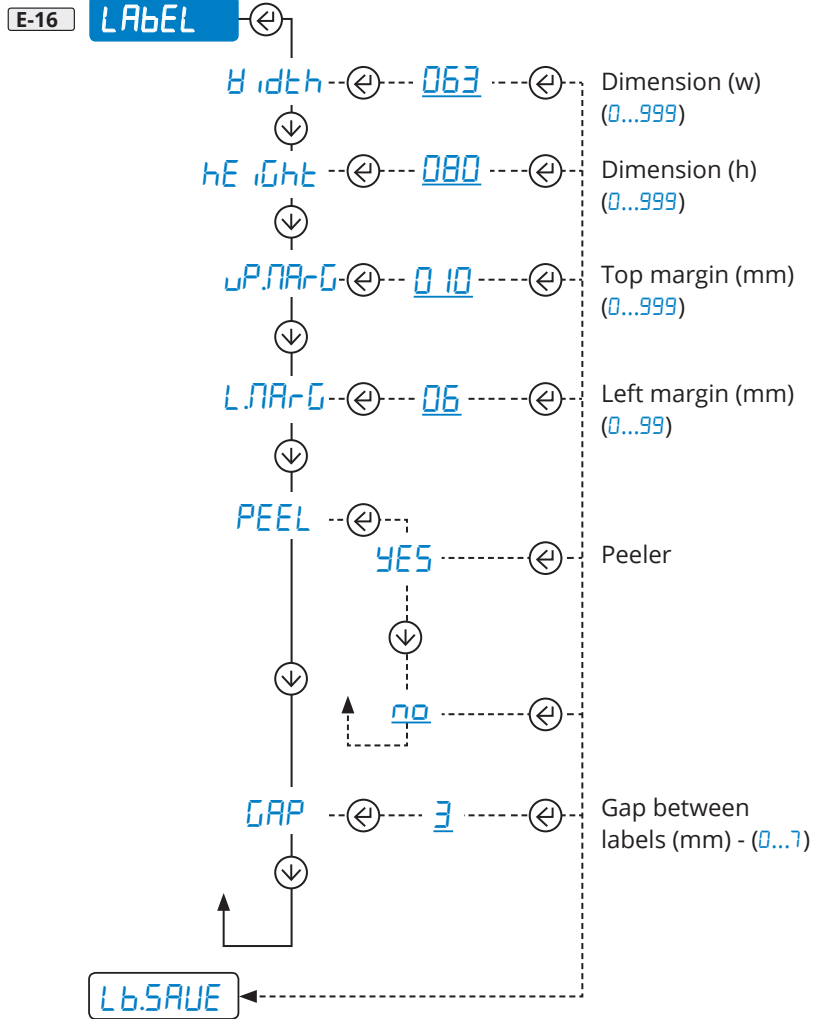
Saving of labels in the printer memory   👁̸ *Visible only if* NodE (D-2-1) = LAbEL

E-17 Lb.SAUE ⏎ L.SAUE? ⏎
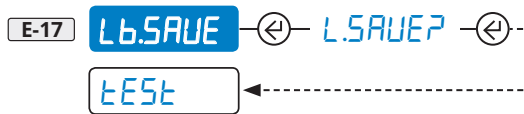
tESt ◄

Saving of labels in the printer memory (for label mode only) and test print of ALL FORMATS
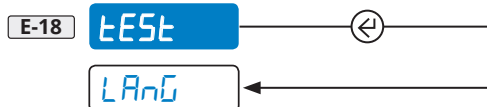
E-18 tESt ⏎

LAnG ◄

MENU

A `CAL`
B `O.CAL`
C `GrAV`
D `SErIAL`
E `LAYout`
F `FiLtEr`
G `SCrEEn`
H `bAtt`
I `ECo.bAt`
J `AutoFF`
K `rEMotE`
L `An.out`
M `inPutS`
N `outPut`
O `rESEt`
P `diAG`
Q `AdVAnC`

1 `StAnd.0`
...
4 `StAnd.3`
5 `hirES.0`
...
12 `hirES.7`
13 `dYn.0`
...
16 `dYn.3`
17 `SLoV.0`
...
20 `SLoV.3`
21 `doS.0`
...
24 `doS.3`
25 `r.AdC 0`
...
28 `r.AdC 5`

🏠 ⚙️

`FiLtEr` Weighing filters 🅜🔒 ✏️

Edits scale reactivity.
Useful to adjust the scale to your needs.

🅜🔒 *With the approved instrument, you can select only some of the filters listed below (`StAnd.0`...`3`, `hirES.0`-`1`, `dYn.0`-`1`, `SLoV.0`-`1`).*
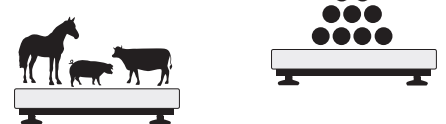
To weigh live animals, you must also activate the additional filter `noiSE` in `AdVAnC`.

Premise:
The "`0`" represents minor filtering incidence.
Increasing the incidence give the weight more stability.
We recommend weighing several times, changing the incidence until you obtain the best compromise between reactivity and stability.

Table and floor scales and piece counters

F-1	`StAnd.0`
	...
F-4	`StAnd.3`
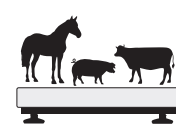
High precision scales

F-5	`hirES.0`
	...
F-12	`hirES.7`

Suspended and oscillating load weighing

F-13	`dYn.0`
	...
F-16	`dYn.3`

Liquid weighing, weighbridges and weighing with vibrations

F-17	`SLoV.0`
	...
F-20	`SLoV.3`

Metering, filling, level check and overloads

F-21	`doS.0`
	...
F-24	`doS.3`

Automatic   Manual

Filter for specific applications for use by the manufacturer

F-25	`r.AdC 0`
	...
F-28	`r.AdC 5`

MENU

How to enter
1. Off ⏻
2. On ⏻
3. ⬆
ⓘ *Page 8*

How to browse
↑ = ⬆
↓ = ⬇
→ = ↵
← = **C**

How to save and exit
💾
ⓘ *Page 8*

A	`CAL`
B	`O.CAL`
C	`GrAU`
D	`SErIAL`
E	`LAYout`
F	`FiLtEr`
G	`SCrEEn`
H	`bAtt`
I	`ECo.bAt`
J	`AutoFF`
K	`rEMotE`
L	`An.out`
M	`inPutS`
N	`outPut`
O	`rESEt`
P	`diAG`
Q	`AdUAnC`

1	`bAR.L it`
2	`br iGht`
3	`LoCh`
4	`CoLour`

🏠 ⚙

SCrEEn Adjusting the display ✎

Backlighting

G-1 `bAR.L it` ↵

— `no` ↵
— `YES` ↵ → Always on
— `Auto` ↵ → On when weight is unstable

`br iGht`

Brightness

G-2 `br iGht` ↵

— `brGt 1` ↵
— …
— `brGt 5` ↵

`LoCh`
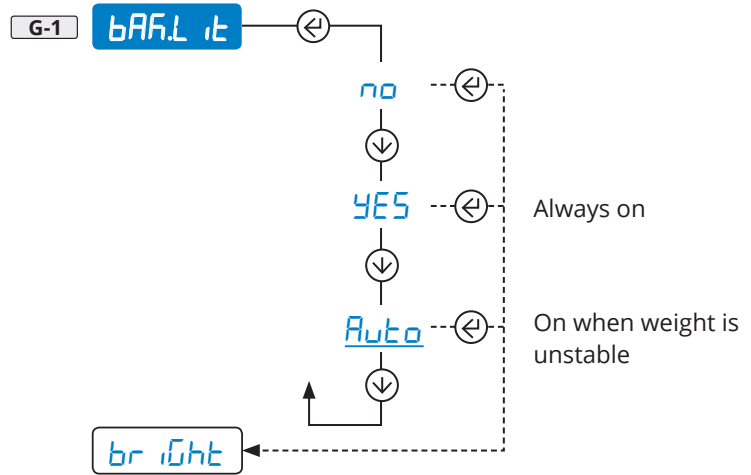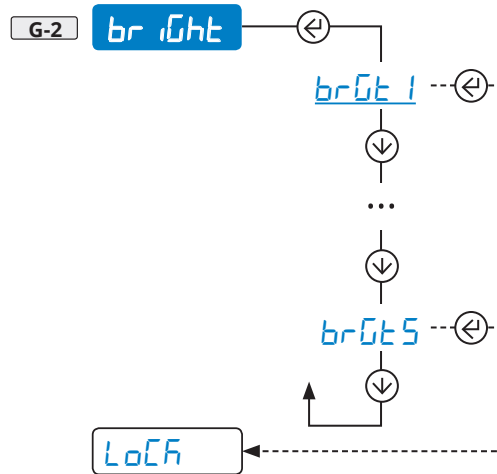
Display lock (for use by the manufacturer)

G-3 `LoCh` ↵

— `no` ↵
— `YES` ↵

`CoLour`

Backlighting colour

G-4 `CoLour` ↵

— `Wh itE` ↵
— …
— `GrEEn` ↵

`bAR.L it`
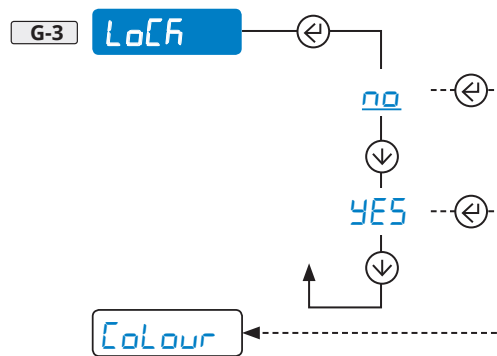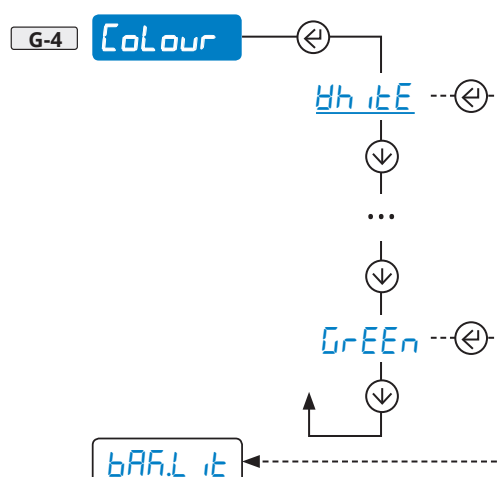
👁 *Only in version with colour display.*

MENU

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout`
F `FILtEr`
G `SCrEEn`
H `bAtt`
I `ECo.bAt`
J `AutoFF`
K `rEMotE`
L `An.out`
M `InPutS`
N `outPut`
O `rESEt`
P `dIAG`
Q `AdUAnC`

`bAtt` Power supply via battery ✏️

| H | `bAtt` | (↵) |

👁̸ *Only for DFWL models.*

`no` (↵)
(↓)
`AA` (↵) 4 AA Batteries
(↓)
`Pb` (↵) Lead rechargeable battery
(↓)
`niMh` (↵) niMh rechargeable battery
(↓)
`ECo.bAt`
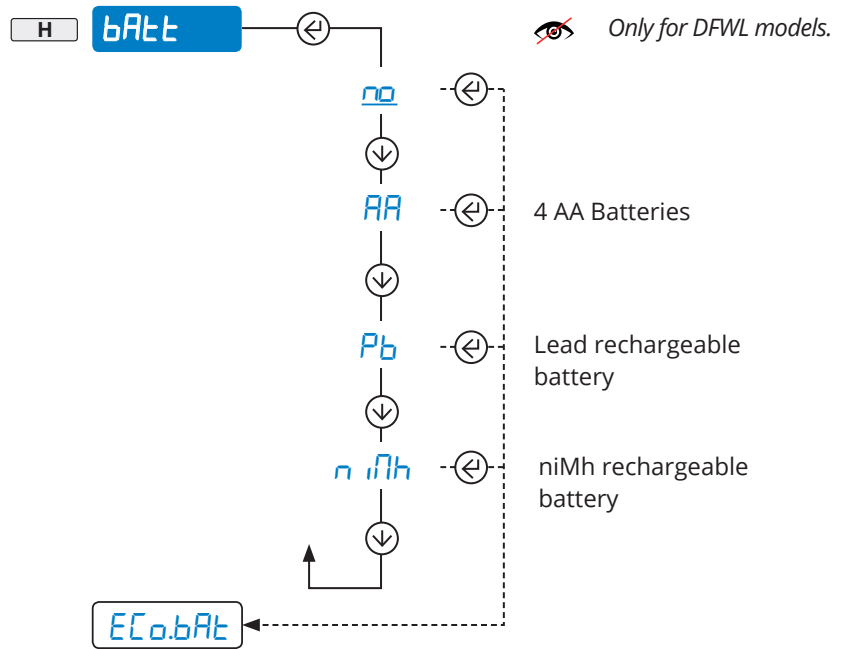
ⓘ *WARNING:*
only use original rechargeable batteries.

`ECo.bAt` Energy saving for battery operation ✏️

👁̸ *Visible only if* `bAtt` (H) *is active*

| I | `ECo.bAt` | (↵) |

`ECo.no` (↵) Maximum consumption, maximum reactivity
(↓)
`ECo.MIn` (↵) Reduced reactivity, reduced consumption
(↓)
`ECo.MEd` (↵) Reduced reactivity, reduced consumption
(↓)
`ECo.MAH` (↵) Minimum consumption. Scale in standby and power at the touch of a button and automatic switch-off at the end of weighing.
(↓)
`AutoFF`

MENU

A **CAL**
B **O.CAL**
C **GrAU**
D **SEr iAL**
E **LAYout**
F **F iLtEr**
G **SCrEEn**
H **bAtt**
I **ECo.bAt**
J **AutoFF**
K **rEnotE**
L **An.out**
M **inPutS**
N **outPut**
O **rESEt**
P **d iAG**
Q **AdUAnC**

AutoFF Auto off

J **AutoFF** ↵

no ↵
↓
YES ↵ - - - **N 001** - ↵

How to set the value
🖐 ⬇ ⬆ ➡
or
⓪ … ⑨

rEnotE

---

rEnotE Remote control

K **rEnotE** ↵

no
↓
ir 1 — Infrared remote control (4, 18, 19 keys). All keys perform the tare.
↓
ir 4 — 4-Key infrared remote control. Multi-function mode.
↓
ir 18 — 18-Key infrared remote control. Multi-function mode.
↓
ir 19 — 19-Key infrared remote control. Multi-function mode.
↓
rF 1 — 6-Key radio-frequency remote control. All keys perform the tare.
↓
rF 6 — 6-Key radio-frequency remote control. Multi-function mode.
↓
rF.br 1 — 6-Key radio-frequency remote control in broadcast mode. All keys perform the tare.
↓
rF.br 6 — 6-Key radio-frequency remote control in broadcast mode. Multi-function mode.
↓

ⓘ *The broadcast mode allows sending the control to multiple scales simultaneously.*

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How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⌃	💾
2. On ⏻	↓ = ⌄	
3. ⌃	→ = ⏎	
ⓘ *Page 8*	← = **C**	ⓘ *Page 8*

- **A** `CAL`
- **B** `O.CAL`
- **C** `GrAV`
- **D** `SEriAL`
- **E** `LAYout`
- **F** `FiLtEr`
- **G** `SCrEEn`
- **H** `bAtt`
- **I** `ECo.bAt`
- **J** `AutoFF`
- **K** `rEMotE`
- **L** `An.out`
  - **1** `nEt`
  - **2** `Pnt.und`
  - **3** `UGt.1`
  - **4** `Pnt.1`
  - **5** `UGt.2`
  - **6** `Pnt.2`
  - **7** `UGt.3`
  - **8** `Pnt.3`
  - **9** `Pnt.oUr`
- **M** `inPutS`
- **N** `outPut`
- **O** `rESEt`
- **P** `diAG`
- **Q** `AdVAnC`

`An.out`   Analog output   👁️✏️

👁️ *Visible only in the presence of optional analog board.*

Operation proportional to the net/gross weight

L-1 `nEt` ⏎

`YES` ⏎ → Proportional to net weight

`no` ⏎ → Proportional to gross weight

`Pnt.und`

L-2 `Pnt.und` ⏎ `00000` ⏎ — Analog value relative to weight in "underload" (0...65535)

L-3 `UGt.1` ⏎ `000.000` ⏎ — First value of linearisation weight (-99999...999999)

L-4 `Pnt.1` ⏎ `01300` ⏎ — Analog value relative to `UGt.1` (0...65535)

L-5 `UGt.2` ⏎ `000.000` ⏎ — Second value of linearisation weight (-99999...999999)

L-6 `Pnt.2` ⏎ `63250` ⏎ — Analog value relative to `UGt.2` (0...65535)

L-7 `UGt.3` ⏎ `000.000` ⏎ — Third value of linearisation weight *(not mandatory)* (-99999...999999)

L-8 `Pnt.3` ⏎ `00000` ⏎ — Analog value relative to `UGt.3` *(not mandatory)* (0...65535)

L-9 `Pnt.oUr` ⏎ `65535` ⏎ — Analog value relative to weight in "overload" (0...65535)

ⓘ *Thanks to the real-time upgrading of the output, using a tester you can check the value entered (see example page 30).*

Value to be entered	Output volts	Output mA
1200	~ 0 V	~ 0 mA
11250		~ 4 mA
52200		~ 20 mA
62300	~ 10 V	

MENU
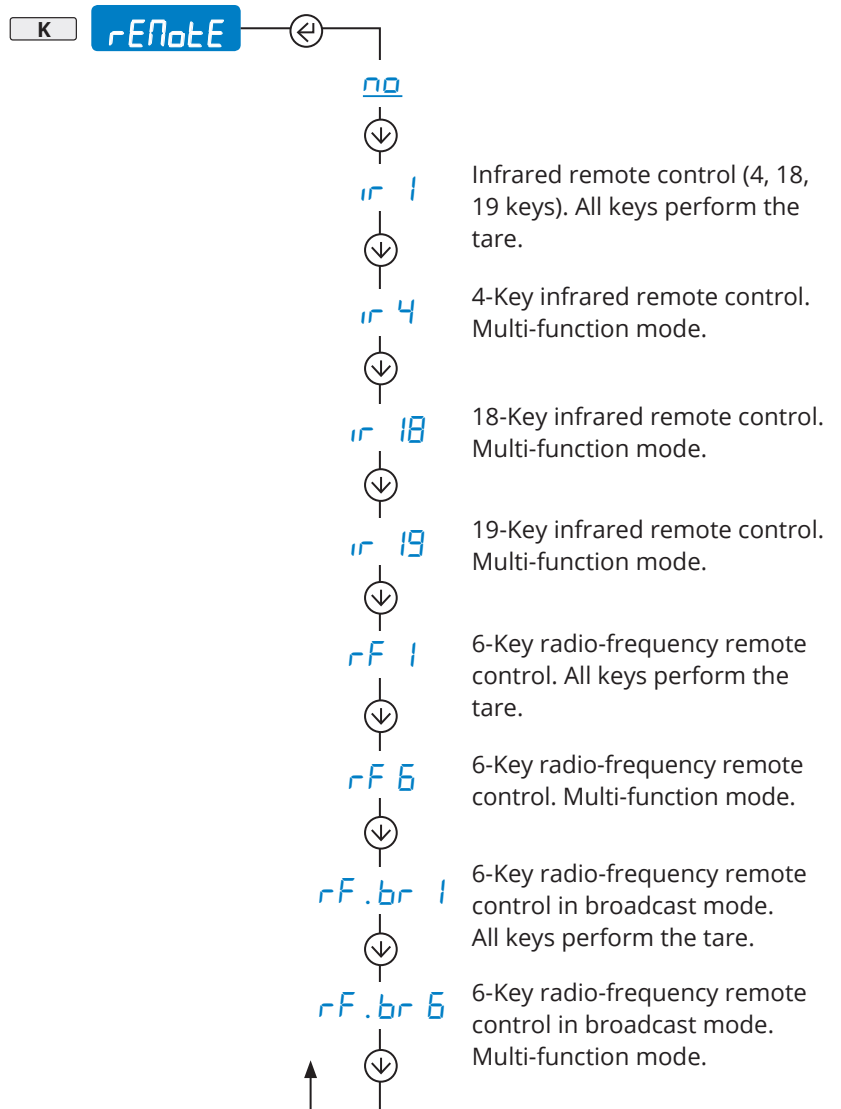
A CAL
B D.CAL
C GrAU
D SEr.iAL
E LAYout
F FiLtEr
G SCrEEn
H bAtt
I ECo.bAt
J AutoFF
K rEMotE
L An.out
M inPutS
N outPut
O rESEt
P diAG
Q AdUAnC

1 nEt
2 Pnt.und
3 UGt.1
4 Pnt.1
5 UGt.2
6 Pnt.2
7 UGt.3
8 Pnt.3
9 Pnt.oUr

🏠 ⚙️

Programming example:

we want to program a linearisation point so that at 1000kg, the analog output supplies 10V.

...

L-3 UGt.1 —↵— 00 1000 —↵ Program 1000kg

L-4 Pnt.1 —↵
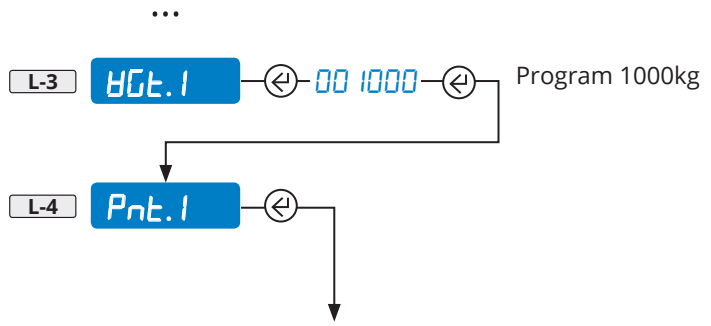
Enter 62300 (the reference value in the table) and check the analog output using a tester.

ⓘ The output upgrades in real-time.
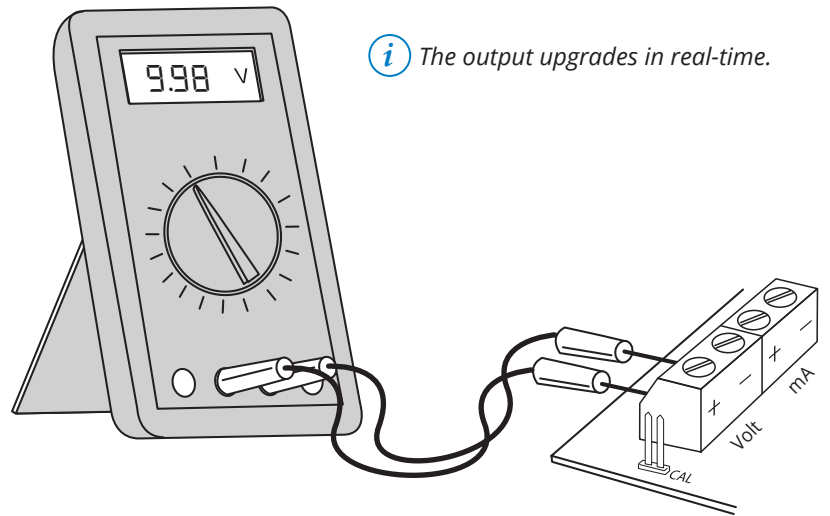
Adjust the analog output by increasing or decreasing the value.
We recommend minimal changes of at least 10 points, (623 10, 62320, 62330, etc.)

How to set the value

👆 ⋁ ⋀
or
0 ... 9

ⓘ The output upgrades in real-time.
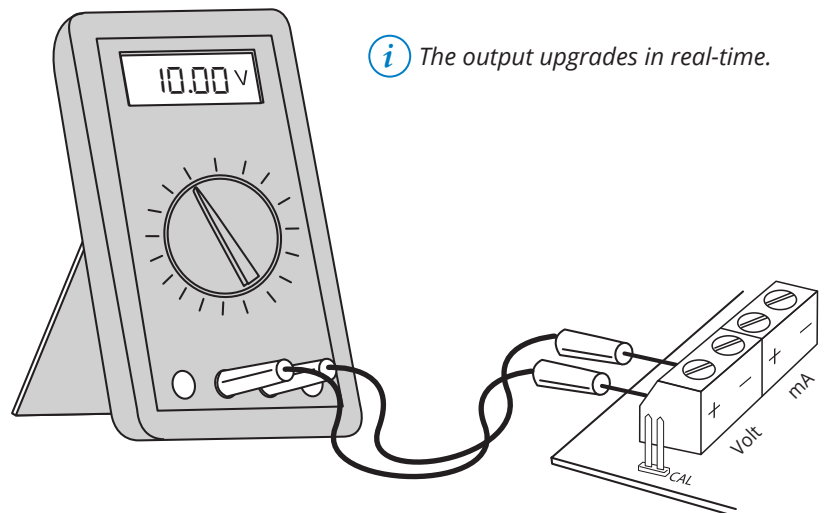
Once the desired adjustment has been made, confirm the value with ↵ .

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊼	💾
2. On ⏻	↓ = ⊻	
3. ⊼	→ = ⏎	
ⓘ Page 8	← = Ⓒ	ⓘ Page 8

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout`
F `FiLtEr`
G `SCrEEn`
H `bAtt`
I `ECo.bAt`
J `AutoFF`
K `rEMotE`
L `An.out`
M `inPutS`
N `outPut` — **1** `inP.b.1`
O `rESEt` — **2** `inP.b.2`
P `dIAG` — **3** `inP.b.3`
Q `AdUAnC` — **4** `inP.b.4`

🏠 ⚙️

Graph axes: V / mA vertical, kg horizontal. Points: `Pnt.oUr`, `Pnt.3`, `Pnt.2`, `Pnt.1`, `Pnt.und`, with Max and Max + 9d markers.
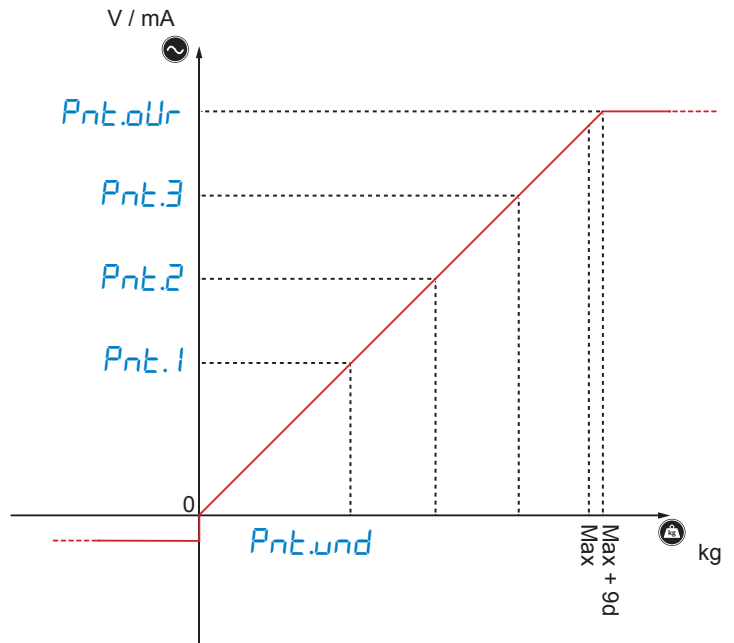
`inPutS` Digital inputs 👁️‍🗨️ ✏️

👁️‍🗨️ *Visible only in the presence of optional inputs/outputs electronic board.*

Input 1 configuration

M-1 `inP.b.1` ⏎

`no` ⏎

`2Ero` ⏎ Key repetition ⊻

`tArE` ⏎ Key repetition ⊼

`ModE` ⏎ Key repetition →

`Print` ⏎ Key repetition ⏎

`LoCK.Kb` ⏎ Disable keyboard
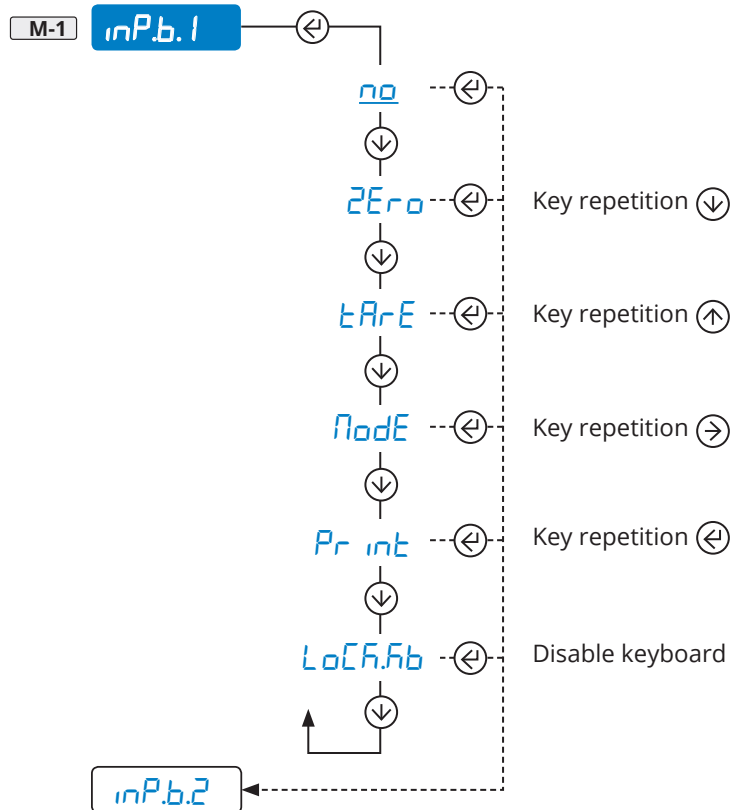
`inP.b.2`

ⓘ *Repeat the same operation for* `inP.b.2`, `inP.b.3` *e* `inP.b.4`.

MENU

A `CAL`
B `O.CAL`
C `GrAU`
D `SErIAL`
E `LAYout`
F `FiLtEr`
G `SCrEEn`
H `bAtt`
I `ECo.bAt`
J `AutoFF`
K `rEMotE`
L `An.out`
M `inPutS`
N `outPut`
O `rESEt`
P `dIAG`
Q `AdUAnC`

N: `outPut` →
- 1 `rEL.b.1` →
  - 1 `FunCt`
  - 2 `NodE`
  - 3 `dirECt`
  - 4 `hiStEr`
- 2 `rEL.b.2`
- 3 `rEL.b.3`
- 4 `rEL.b.4`

🏠 ⚙

`outPut` Digital outputs 👁️̶ ✏️

👁️̶ *Visible only in the presence of optional inputs/outputs electronic board.*

Operation on net weight, gross weight or dosage

N-1-1 `FunCt` ⏎
- `no` ⏎
- `GroSS` ⏎
- `nEt` ⏎
- `doSAGE` ⏎
→ `NodE`
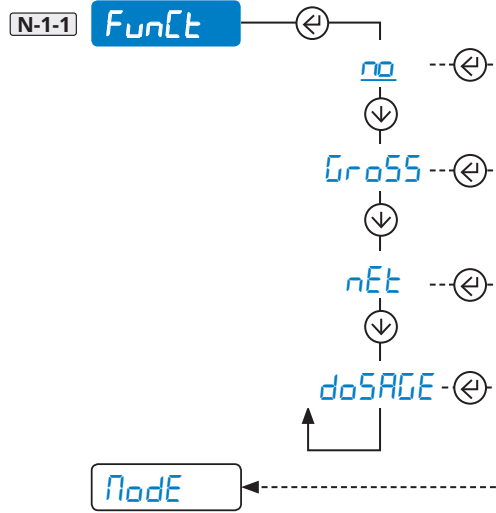
For dosage / filling:
- Start the `doSAGE` mode
- Set the `unLoCh` unladen weight.

The output is activated only after having set the unladen weight of the container (by key or via external button) and is turned off once the set target (setpoint) has been achieved. To perform fills at two speeds, you must programme two outputs in `doSAGE` mode.

Normally open (n.o.) or closed (n.C.) operation

N-1-2 `NodE` ⏎
- `n.o.` ⏎
- `n.C.` ⏎
→ `dirECt`
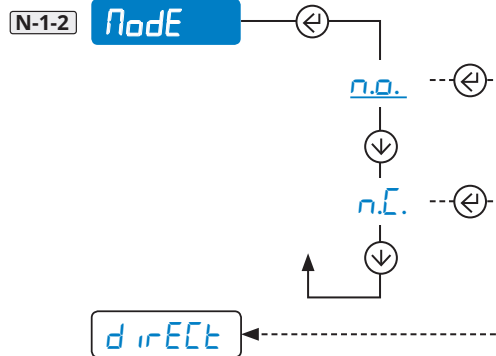
Output activation mode
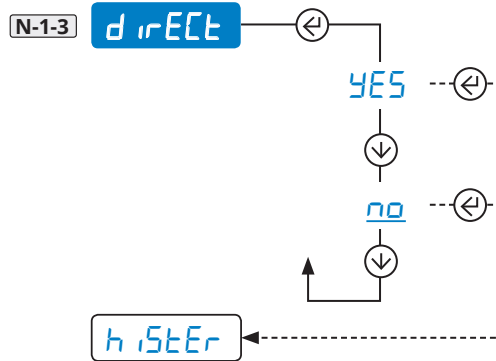
N-1-3 `dirECt` ⏎
- `YES` ⏎ — Direct, when weight is table or unstable
- `no` ⏎ — Only when weight is stable
→ `hiStEr`

Double threshold operation
(activation weight threshold ≠ from output deactivation weight threshold)

N-1-4 `hiStEr` ⏎
- `YES` ⏎
- `no` ⏎
→ `FunCt`

Operation:

`YES` (Double threshold)

`no` (Single threshold)

ⓘ *Repeat the same operation for `rEL.b.2`, `rEL.b.3` and `rEL.b.4`.*

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⬆	💾
2. On ⏻	↓ = ⬇	
3. ⬆	➜ = ⏎	
ⓘ Page 8	← = C	ⓘ Page 8

A	CAL
B	O.CAL
C	GrAU
D	SErIAL
E	LAYout
F	FILtEr
G	SCrEEn
H	bAtt
I	ECo.bAt
J	AutoFF
K	rEMotE
L	An.out
M	inPutS
N	outPut
O	rESEt
P	dIAG
Q	AdUAnC

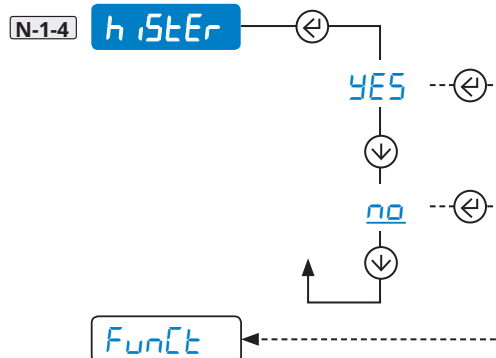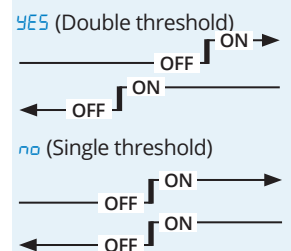| 1	AdC.uU
2	dISPLA
3	KEYb
4	CtS
5	outPut
6	inPutS
7	An.out
8	SEr.nuM
9	PrG.UEr
10	dIU.int
11	AdC.Pnt
12	bt.AdC
13	PY.AdC
14	SErIAL

🏠 ⚙

---

rESEt   Factory configuration reset
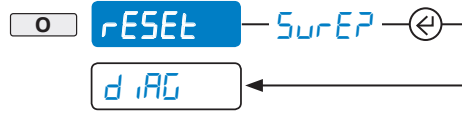
O	rESEt — SurEP — ⏎	Function resetting the factory configurations while maintaining the calibration in the memory unchanged.
	dIAG ←	

dIAG   Diagnostics

P-1	AdC.uU	Converter. Check of input signal in µV. In case of more equalised channels, press ⬇ or ⬆ to examine all the selected channels.
P-2	dISPLA	Display. Integrity check of all segments and icons.
P-3	KEYb	Keyboard. Press any key to verify its correct operation, with beep and code on display.
P-4	CtS	CTS. Check of status of the control signal from the printer.

| P-5 | outPut | 👁 Optional digital outputs. Check the activation and deactivation of each contact.
Example: out1 *activates output 1. Press* ⬇ *to select the next output.*
WARNING: before entering the outPut pitch, verify that the activation of the output does not cause dangerous conditions for people, animals or property. |
|---|---|---|

| P-6 | inPutS | 👁 Optional digital inputs. Check the activation and deactivation of each input.
Example: ib1-0 *input not active*
Example: ib1-1 *input active*
Press ⬇ *to select the next input.* |
|---|---|---|

P-7	An.out	👁 Analog output. Enter the digital value and using a tester check the response of the analog output.
P-8	SEr.nuM	Serial number of the scale.
P-9	PrG.UEr	Hardware revision (e.g. rEU5) followed by software version (e.g. 04.00.00).
P-10	dIU.int	For use by the manufacturer.
P-11	AdC.Pnt	For use by the manufacturer.
P-12	bt.AdC	For use by the manufacturer.
P-13	PY.AdC	For use by the manufacturer.
P-14	SErIAL	For use by the manufacturer.

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MENU

How to browse
↑ = ⌃
↓ = ⌄
→ = ⏎
← = **C**

A	`CAL`
B	`O.CAL`
C	`GrAV`
D	`SErIAL`
E	`LAYout`
F	`FILtEr`
G	`SCrEEn`
H	`bAtt`
I	`ECo.bAt`
J	`AutoFF`
K	`rEMotE`
L	`An.out`
M	`inPutS`
N	`outPut`
O	`rESEt`
P	`dIAG`
Q	`AdVAnC`

1	`CAL.PAr`	**1**	`dEC.in`
2	`EQuAL.P`	**2**	`diV`
3	`CAL.AdV`	**3**	`u.M.`
4	`noISE`	**4**	`rAnGE 1`
5	`MEtroL`	**5**	`rAnGE 2`
6	`KEYb`	**6**	`rAnGE 3`
7	`tILt`	**7**	`EQuAL`
8	`rEACt`	**8**	`n.ChAn`
9	`LoCK.Kb`		
10	`ALib.ir`		
11	`Pin.tEC`		
12	`Pin.uSE`		
13	`dFLt.t`		

🏠 ⚙️

`AdVAnC` **Advanced** ✏️

`CAL.PAr` **Calibration parameters** 🅼🔒

Configuration of the decimal point (0…3)
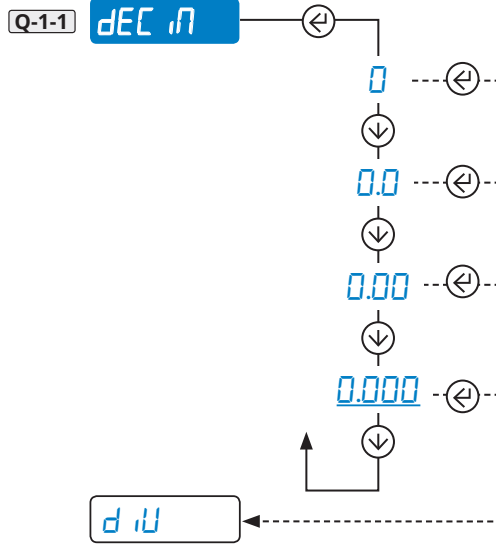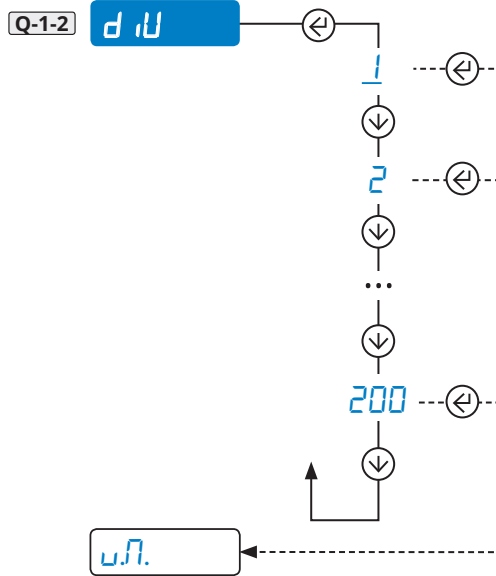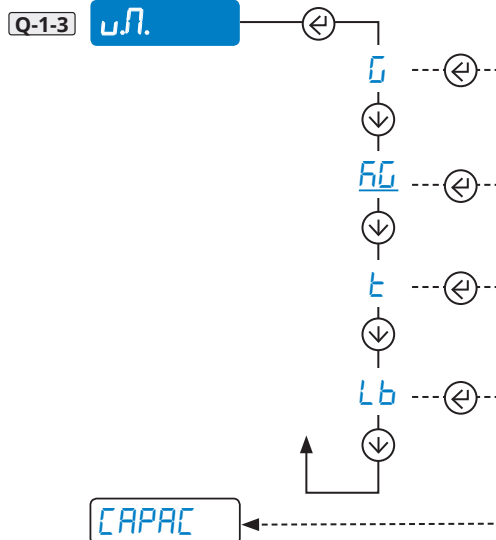
Q-1-1 `dEC.in` ⏎

- `0` --- ⏎
- `0.0` --- ⏎
- `0.00` --- ⏎
- `0.000` --- ⏎

→ `diV`

Reading division

Q-1-2 `diV` ⏎

- `1` --- ⏎
- `2` --- ⏎
- `…`
- `200` --- ⏎

→ `u.M.`

Unit of measure

Q-1-3 `u.M.` ⏎

- `G` --- ⏎
- `KG` --- ⏎
- `t` --- ⏎
- `Lb` --- ⏎

→ `CAPAC`

MENU

A `CAL`
B `O.CAL`
C `GrAV`
D `SErIAL`
E `LAYout`
F `FiLtEr`
G `SCrEEn`
H `bAtt`
I `ECo.bAt`
J `AutoFF`
K `rEMotE`
L `An.out`
M `inPutS`
N `outPut`
O `rESEt`
P `diAG`
Q `AdVAnC`

   1 `CAL.PAr`
   2 `E9uAL.P`   **1** `dEC iM`
   3 `CAL.AdV`   **2** `diV`
   4 `noiSE`   **3** `u.M.`
   5 `MEtroL`   **4** `rAnGE 1`
   6 `REYb`   **5** `rAnGE 2`
   7 `tiLt`   **6** `rAnGE 3`
   8 `rEACt`   **7** `E9uAL`
   9 `LoCR.Rb`   **8** `n.ChAn`
   10 `ALibir`
   11 `Pin.tEC`
   12 `Pin.uSE`
   13 `dFLt.t`

🏠 ⚙️

Scale capacity. Set Max or Range 1 (Max range = *800.000*)

Q-1-4 `rAnGE 1` ⏎ `003.000` ⏎
`rAnGE 2`

How to set the value

👆 ⋁ ⋀ →
or
⓪ … ⑨
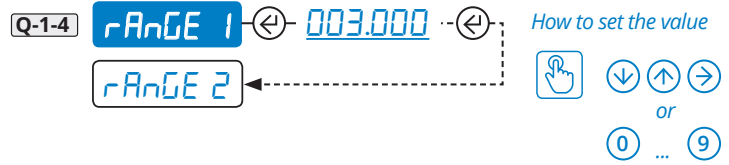
Range 2

For multirange scales, set the second weighing range.

Q-1-5 `rAnGE 2` ⏎ `000.000` ⏎
`rAnGE 3`

How to set the value

👆 ⋁ ⋀ →
or
⓪ … ⑨
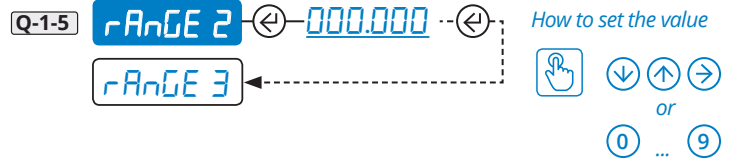
Range 3

For multirange scales, set the third weighing range.

Q-1-6 `rAnGE 3` ⏎ `000.000` ⏎
`rAnGE 1`

How to set the value

👆 ⋁ ⋀ →
or
⓪ … ⑨
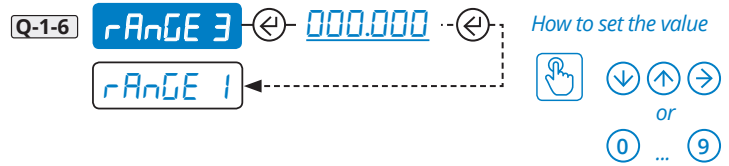
Example of multirange configuration at 1500/3000 kg, division 0.5/1 kg.

Set:	
	`dEC i` = *0.0*
	`diV` = *5*
	`rAnGE 1` = *1500.0*
	`rAnGE 2` = *3000.0*

Equalisation function

Q-1-7 `E9uAL` ⏎
`no` ⏎
⋁
`YES` ⏎
⋁
`n.ChAn`
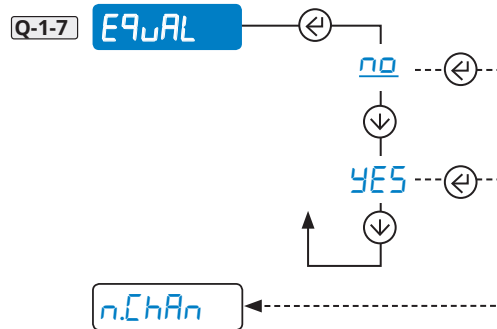
ⓘ *Connection diagram on page 7.*
Equalisation procedure on page 36.

Equalised analog channels

👁️‍🗨️ *Visible only if* `E9uAL` **(Q-1-7)**= *YES*
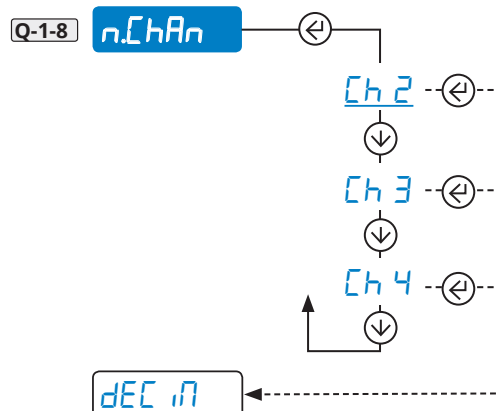
Q-1-8 `n.ChAn` ⏎
`Ch 2` ⏎
⋁
`Ch 3` ⏎
⋁
`Ch 4` ⏎
⋁
`dEC iM`

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊼	💾
2. On ⏻	↓ = ⊻	
3. ⊼	→ = ⏎	
(i) Page 8	← = **C**	*(i) Page 8*

- **A** `CAL`
- **B** `O.CAL`
- **C** `GrAV`
- **D** `SErIAL`
- **E** `LAYout`
- **F** `FILtEr`
- **G** `SCrEEn`
- **H** `bAtt`
- **I** `ECo.bAt`
- **J** `AutoFF`
- **K** `rEMotE`
- **L** `An.out`
- **M** `InPutS`
- **N** `outPut`
- **O** `rESEt`
- **P** `dIAG`
- **Q** `AdVAnC`
  - **1** `CAL.PAr`
  - **2** `E9uAL.P`
    - **1** `E9.0`
    - **2** `E9.1`
    - **3** `E9.2`
    - **4** `E9.3`
    - **5** `E9.4`
  - **3** `CAL.AdV`
  - **4** `noISE`
  - **5** `MEtroL`
  - **6** `HEYb`
  - **7** `tILt`
  - **8** `rEACt`
  - **9** `LoCH.Hb`
  - **10** `ALIbIr`
  - **11** `PIn.tEC`
  - **12** `PIn.uSE`
  - **13** `dFLt.t`

🏠 ⚙

`E9uAL.P` Equalisation ✎

(i) `E9uAL.P` is only visible if the function `E9uAL` (**Q-1-7**) is activated in the menu `CAL.PAr` (**Q-1**).

The equalisation wizard asks to acquire the zero point with scale unloaded and to later place a weight of about 1/8 of the maximum capacity (Max) on each individual cell, in the required order. After the procedure the message `E9.oH` will appear.

Proceed with the calibration.

```
        ┌─────┐
        │ 0.0 │
        │ooooo│
        └──┬──┘
   ┌───────┼───────┐
┌──┴──┐         ┌──┴──┐
│Cell 4│        │Cell 1│
└─────┘         └─────┘

┌─────┐         ┌─────┐
│Cell 3│        │Cell 2│
└─────┘         └─────┘
```

Q-2-1 `E9.0` / `E9.1` ⏎ → `-oH-`

Q-2-2 `E9.1` / `E9.2` ⏎ → `-oH-`

🏋kg = 1/8 Max (kg)

Q-2-3 `E9.2` / `E9.3` ⏎ → `-oH-`

Q-2-4 `E9.3` / `E9.4` ⏎ → `-oH-`

Q-2-5 `E9.4` / **C** `CAL` ⏎ → `-oH-`

MENU

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⌃	💾
2. On ⏻	↓ = ⌄	
3. ⌃	→ = ↵	
ⓘ Page 8	← = C	ⓘ Page 8

- **A** `CAL`
- **B** `O.CAL`
- **C** `GrAU`
- **D** `SErIAL`
- **E** `LAYout`
- **F** `FiLtEr`
- **G** `SCrEEn`
- **H** `bAtt`
- **I** `ECo.bAt`
- **J** `AutoFF`
- **K** `rEMotE`
- **L** `An.out`
- **M** `inPutS`
- **N** `outPut`
- **O** `rESEt`
- **P** `dIAG`
- **Q** `AdUAnC`
  - **1** `CAL.PAr`
  - **2** `EQuAL.P`
  - **3** `CAL.AdU`
    - **1** `2Ero`
  - **4** `noiSE`
  - **5** `MEtroL`
  - **6** `KEYb`
  - **7** `tiLt`
  - **8** `rEACt`
  - **9** `LoCK.Kb`
  - **10** `ALibir`
  - **11** `Pin.tEC`
  - **12** `Pin.uSE`
  - **13** `dFLt.t`

🏠 ⚙

`CAL.AdU` Complete calibration ✎

ⓘ Before calibrating, configure the decimals (`dECi` - **Q-1-1**), the division (`diU` - **Q-1-2**) and the capacity (`rAnGE` - **Q-1-4,5,6**).

Start of the calibration procedure:

Q-3-1 `2Ero` → ↵

Unload the plate, press ↵ and wait for the message `-oK-`.

`-oK-`

`CAL.Pnt` → ↵

Now acquire the calibration points (up to 3):

`n 1` ↵

I. Set the calibration points (`1...3`)

How to set the value

👆 ⌄ ⌃

`000.000` ↵

II. Enter the calibration weight

How to set the value

👆 ⌄ ⌃ →
or
⓪ ... ⑨

III. Load the weight and wait

`-oK-`

`000.000` ↵

Repeat the steps from II. for the next points

...

`CAL.oK`

`CAL.Pnt`

How to enter	How to browse	How to save and exit
1. Off ⏻	↑ = ⊘	💾
2. On ⏻	↓ = ⊘	
3. ⊘	→ = ⊘	
ⓘ Page 8	← = C	ⓘ Page 8

- **A** CAL
- **B** O.CAL
- **C** GrAU
- **D** SErIAL
- **E** LAYouT
- **F** FILTEr
- **G** SCrEEn
- **H** bAtt
- **I** ECo.bAt
- **J** AutoFF
- **K** rEMotE
- **L** An.out
- **M** inPutS
- **N** outPut
- **O** rESEt
- **P** dIAG
- **Q** AdUAnC
  - **1** CAL.PAr
  - **2** EQuAL.P
  - **3** CAL.AdU
  - **4** noISE
  - **5** MEtroL
    - **1** O.PErC
    - **2** dIU.Stb
    - **3** O.trA
    - **4** on.2Ero
    - **5** CAL.AdU
    - **6** CAL.MAn
    - **7** d.SALE
  - **6** AEYb
  - **7** tILt
  - **8** rEACt
  - **9** LoCA.Ab
  - **10** AL ib ir
  - **11** P in.tEC
  - **12** P in.uSE
  - **13** dFLt.t

🏠 ⚙️

Additional filter for weighing in the presence of vibrations and for weighing live animals.

Q-4 noISE ⊘ → no ⊘ / YES ↓ → MEtroL
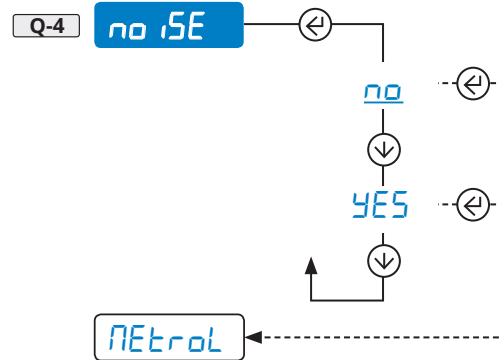
ⓘ To weigh live animals, we recommend the combination with filter StAnd (F-1,2,3,4) or SLoU (F-17,18,19,20). *(See page 25)*

MEtroL   Metrological parameter   🔒

Reset percentage via key

Q-5-1 O.PErC ⊘ — 02 ⊘ → dIU.Stb
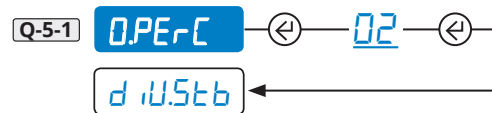
With approved scale (0...2)
With non-approved scale (0...50)

Sensitivity of the weight stability control

Q-5-2 dIU.Stb ⊘ — n 02 ⊘ → O.trA
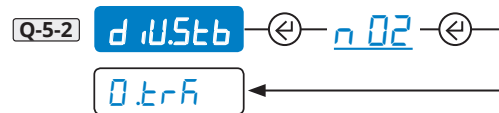
(0...20)

Zero hold function (tracking)
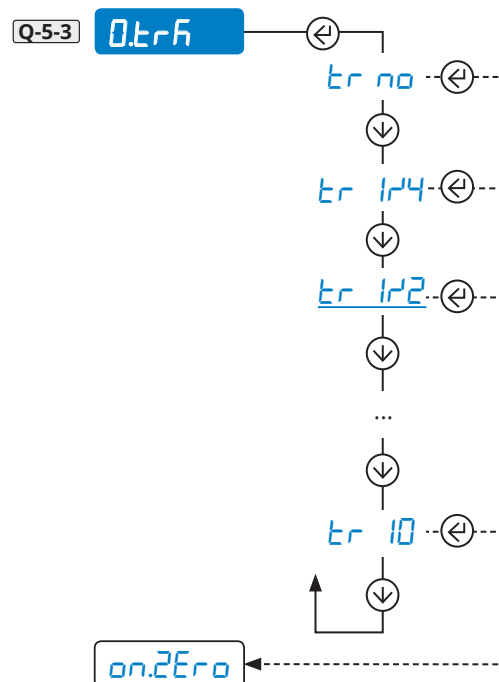
Q-5-3 O.trA ⊘ → tr no ⊘ / tr 1r4 ⊘ / tr 1r2 ⊘ / ... / tr 10 ⊘ → on.2Ero

MENU

A	`CAL`
B	`O.CAL`
C	`GrAU`
D	`SEriAL`
E	`LAYout`
F	`FiLtEr`
G	`SCrEEn`
H	`bAtt`
I	`ECo.bAt`
J	`AutoFF`
K	`rEMotE`
L	`An.out`
M	`inPutS`
N	`outPut`
O	`rESEt`
P	`diAG`
Q	`AdUAnC`

1	`CAL.PAr`
2	`EQuAL.P`
3	`CAL.AdU`
4	`noiSE`
5	`NEtroL`
6	`KEYb`
7	`tiLt`
8	`rEACt`
9	`LoCK.Kb`
10	`ALibir`
11	`Pin.tEC`
12	`Pin.uSE`
13	`dFLt.t`

1	`O.PErC`
2	`diU.Stb`
3	`O.trK`
4	`on.2Ero`
5	`CAL.AdU`
6	`CAL.NAn`
7	`d.SALE`

🏠 ⚙️

Reset at power and reset percentage

Q-5-4 `on.2Ero` ⏎

`no` ⏎

`YES` ⏎ `C.PErC` --- `10` ⏎

`CAL.AdJ`
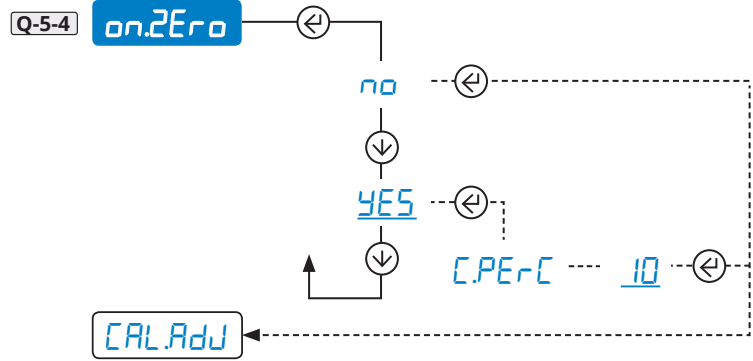
Re-acquisition / change of the calibration points in memory.

Q-5-5 `CAL.AdJ`

`2Ero` ⏎ Change of first calibration point

`Point.1` ⏎ `000000` ⏎

`Point.2` ⏎ I. Enter the calibration weight (0...999999)

`Point.3` ⏎ `LoAd`

II. Load the weight on the scale and wait

`cAL.oK`
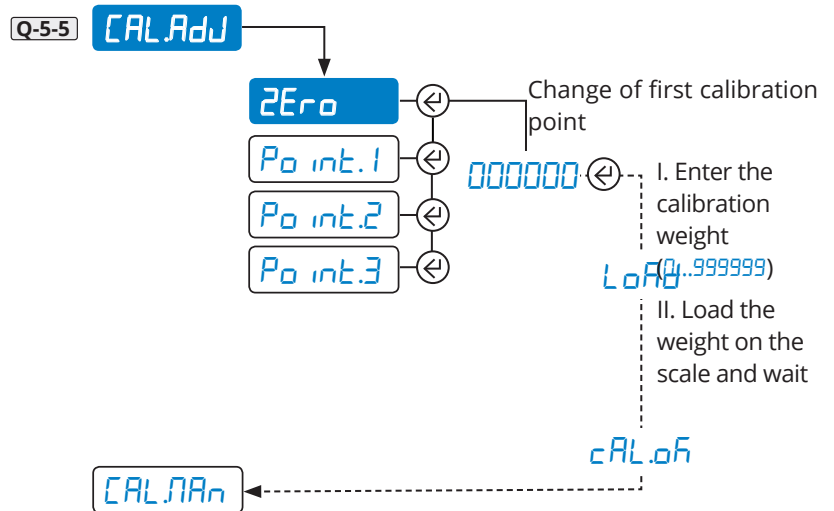
`CAL.NAn`

ⓘ *Repeat the same operation for* `Point 1`, `Point 2` *e* `Point 3`

Q-5-6 `CAL.NAn`   For use by the manufacturer.

Q-5-7 `d.SALE`   For use by the manufacturer.

Type of keyboard

Q-6 `KEYb` ⏎   👁̸ *Visible depending on model*

`norN` ⏎ ⊻⊼→⏎**C**

`EHt` ⏎ ⊻⊼→⏎**C** 1 2 3 / 4 5 6 / 7 8 9 / F1 0 F2

`FunCt`
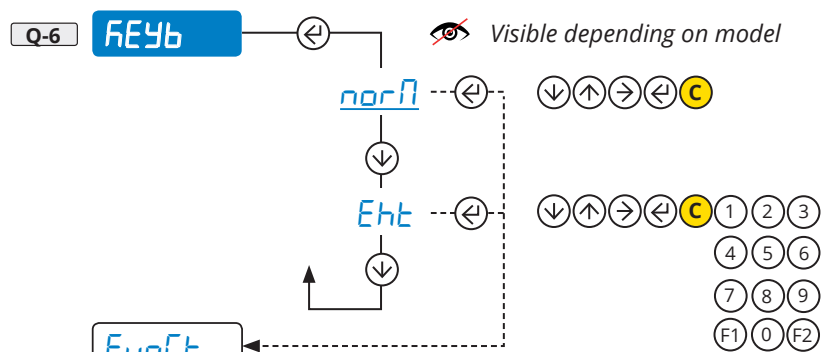
Inclinometer (for use by the manufacturer)

Q-7 `tiLt` ⏎

`n.o.` ⏎ Normally open

`n.C.` ⏎ Normally closed

`rEACt`

MENU

A CAL
B O.CAL
C GrAU
D SErIAL
E LAYout
F FiLtEr
G SCrEEn
H bAtt
I ECo.bAt
J AutoFF
K rEMotE
L An.out
M inPutS
N outPut
O rESEt
P diAG
Q AdUAnC

1. CAL.PAr
2. EQuAL.P
3. CAL.AdU
4. noiSE
5. MEtroL
6. KEYb
7. tiLt
8. rEACt
9. LoCK.Kb
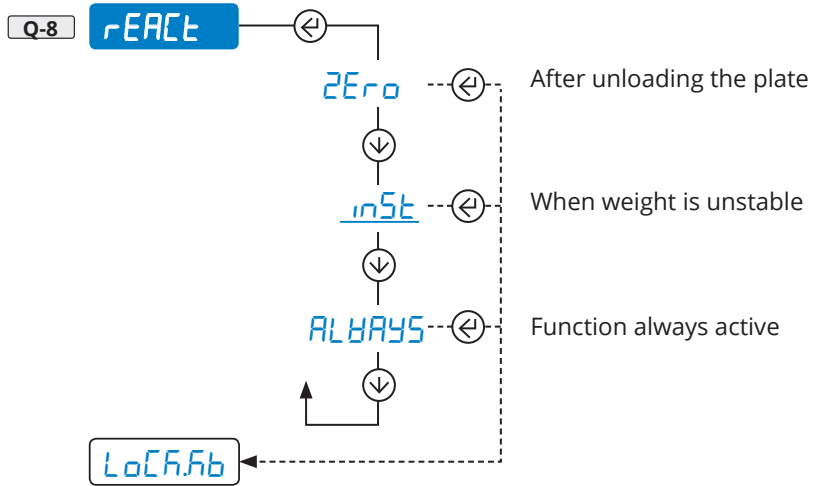10. ALibir
11. Pin.tEC
12. Pin.uSE
13. dFLt.t

🏠 ⚙️

Reactivation of the totalisation or print function

Q-8 rEACt ⏎

ZEro ⏎ — — After unloading the plate

⌄

inSt ⏎ — — When weight is unstable

⌄

ALUAYS ⏎ — — Function always active

⌄

LoCK.Kb

Permanent keyboard lock (excluding key Ⓒ)

Q-9 LoCK.Kb ⏎

no ⏎

⌄

YES ⏎

⌄

rEACt
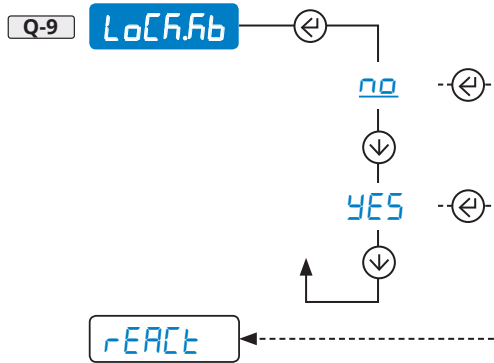
Reset of fiscal memory (alibi memory, optional)

Q-10 ALibir ⏎ SurE? ⏎

Pin

👁️‍🗨️ *Visible only if the alibi memory option is present*

Reset is not possible if the instrument is approved

Ⓜ️🔒
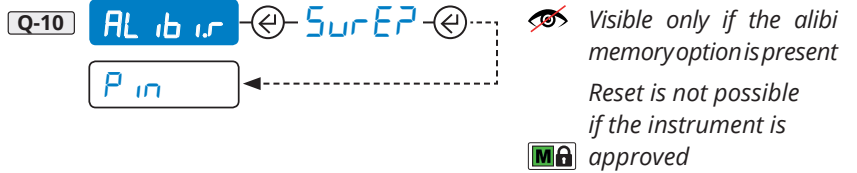
Access PIN to programming menu

Q-11 Pin.tEC ⏎

no ⏎

⌄

YES ⏎

⌄ 123456 ⏎

Pin.uSE

Enter the access PIN

How to set the value

👆 ⌄ ⌃ →

or

⓪ … ⑨
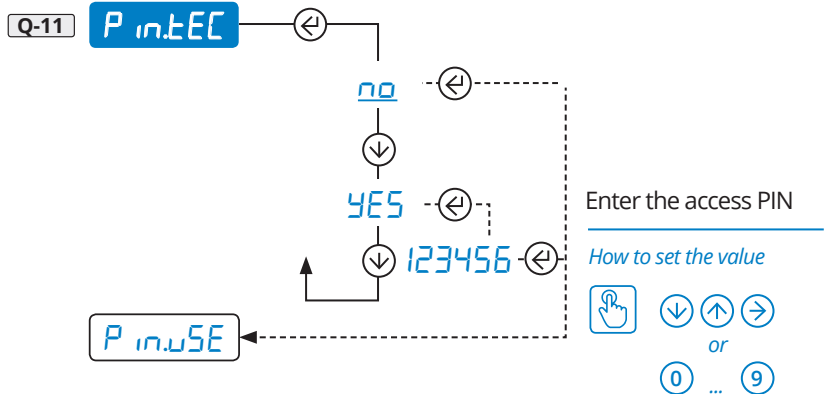
Access PIN to user menus

Q-12 Pin.uSE   View Pin.tEC

Total reset of memory and of calibration, with reset of the factory settings.

Q-13 dFLt.t ⏎ SurE? ⏎

noiSE
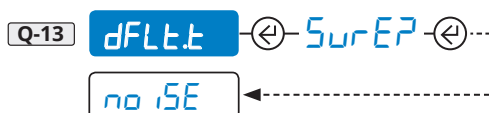
6. COMMUNICATION STRINGS

Short string

01ST,GS,   0.0,kg<CR><LF>   ⚙ 🏠

where

01	Code Ч85 of the instrument (2 characters), only if communication mode Ч85 is enabled
ST	Scale status (2 characters):
	<u>US</u> - Weight unstable
	<u>ST</u> - Weight stable
	<u>OL</u> - Weight overload (out of range)
	<u>UL</u> - Weight underload (out of range)
	<u>TL</u> - Scale not level (inclinometer active)
,	ASCII 044 character
GS	Type of weight data (2 characters)
,	ASCII 044 character
0.0	Weight (8 characters including the decimal point)
,	ASCII 044 character
kg	Unit of measurement (2 characters)
<CR><LF>	Transmission terminator, characters ASCII 013 and ASCII 010

Extended string

01ST,1,   0.0,PT   20.8,   0,kg<CR><LF>

where

01	Code Ч85 of the instrument (2 characters), only if communication mode Ч85 is enabled
ST	Scale status (2 characters):
	<u>US</u> - Weight unstable
	<u>ST</u> - Weight stable
	<u>OL</u> - Weight overload (out of range)
	<u>UL</u> - Weight underload (out of range)
	<u>TL</u> - Scale not level (inclinometer active)
,	ASCII 044 character
1	ASCII 049 character
,	ASCII 044 character
0.0	Net weight (10 characters including the decimal point)
,	ASCII 044 character
PT	Indication of pre-set manual tare (2 characters)
20.8	Tare weight (10 characters including the decimal point)
,	ASCII 044 character
0	Number of pieces (10 characters)
,	ASCII 044 character
kg	Unit of measurement (2 characters)
<CR><LF>	Transmission terminator, characters ASCII 013 and ASCII 010

⚙ 🏠

7. COMMUNICATION CONTROLS

Premise:

in the serial controls and in the relative responses

nn	Address 485 of the instrument (2 characters) (only if communication mode 485 is activated
<CR>	Terminator character ASCII 13 (0D) (1 character)
<LF>	Terminator character ASCII 10 (0A) (1 character)

Reading of simple weight

Control	**nnREAD<CR><LF>**
Response	Short string *(see page 41)*

Reading of complete weight

Control	**nnREXT<CR><LF>**
Response	Extended string *(see page 41)*

Execution of a semi-automatic tare

Control	**nnTARE<CR><LF>**	
Response	**OK<CR><LF>**	indicates that the control was received correctly

Setting of the tare value (PT)

Control	**nnTMANtttttttt<CR><LF>**	
	Where **t...t** is the tare, with decimal points, max 8 characters.	
Response	**OK<CR><LF>**	indicates that the control was received correctly
Examples	**TMAN1.56<CR><LF>**	
	set a tare of 1.56	
	TMAN100<CR><LF>	
	set a tare of 100	

Deleting the tare in memory

Control	**nnCLEAR<CR><LF>**	
Response	**OK<CR><LF>**	indicates that the control was received correctly

Scale reset (function of the ZERO key)

Control	**nnZERO<CR><LF>**	
Response	**OK<CR><LF>**	indicates that the control was received correctly

SPECIFIC CONTROLS FOR ALIBI MEMORY (OPTIONAL)

Storage requests

Control **nnPID<CR><LF>** request to store the weight

Response recording successful
nnPIDss,c,wwwwwwwwwwwwuu,ppttttttttttuu,xxxxx-yyyyyy<CR><LF>

no recording
nnPIDss,c,wwwwwwwwwwwwuu,ppttttttttttuu,NO<CR><LF>

where:

ss status of weight (2 characters)

TL	Error of condition of ɛ ιᴌɛ (NO RECORDING)
OL	Condition of oᴜᴇᴦᴌoᴀd (NO RECORDING)
UL	Condition of undᴇᴦᴌoᴀd (NO RECORDING)
ST	Weight stable
US	Weight unstable (NO RECORDING)

c Scale number (1 character)

w...w Gross weight (10 characters)

uu Unit of measurement (2 characters)

pp Type of tare: double space " " if semi-automatic, "PT" if pre-set (2 characters)

t...t Tare value (10 characters)

xxxxx Number of rewriting (5 characters)

yyyyyy Progressive weighted (6 characters)

Examples PIDST,1, 1500,0kg,PT   2,8kg,00000-000158<CR><LF>
PIDUS,1, 1500,0kg,PT   2,8kg,NO<CR><LF>

Reading of a weighing in memory

Control **nnALRDxxxxx-yyyyyy<CR><LF>**
Where **xxxxx** is the rewriting number, **yyyyyy** is the progressive weighted.

Response **s , w w w w w w w w w w w w u u , p p t t t t t t t t t t u u<CR><LF>**

where:

s Number of scales (always 1)

w...w Gross weight (10 characters)

uu Unit of measurement ("g", "kg", " t", "lb")

pp Type of tare: double space " " if semi-automatic, "PT" if pre-set (2 characters)

t...t Tare value (10 characters)

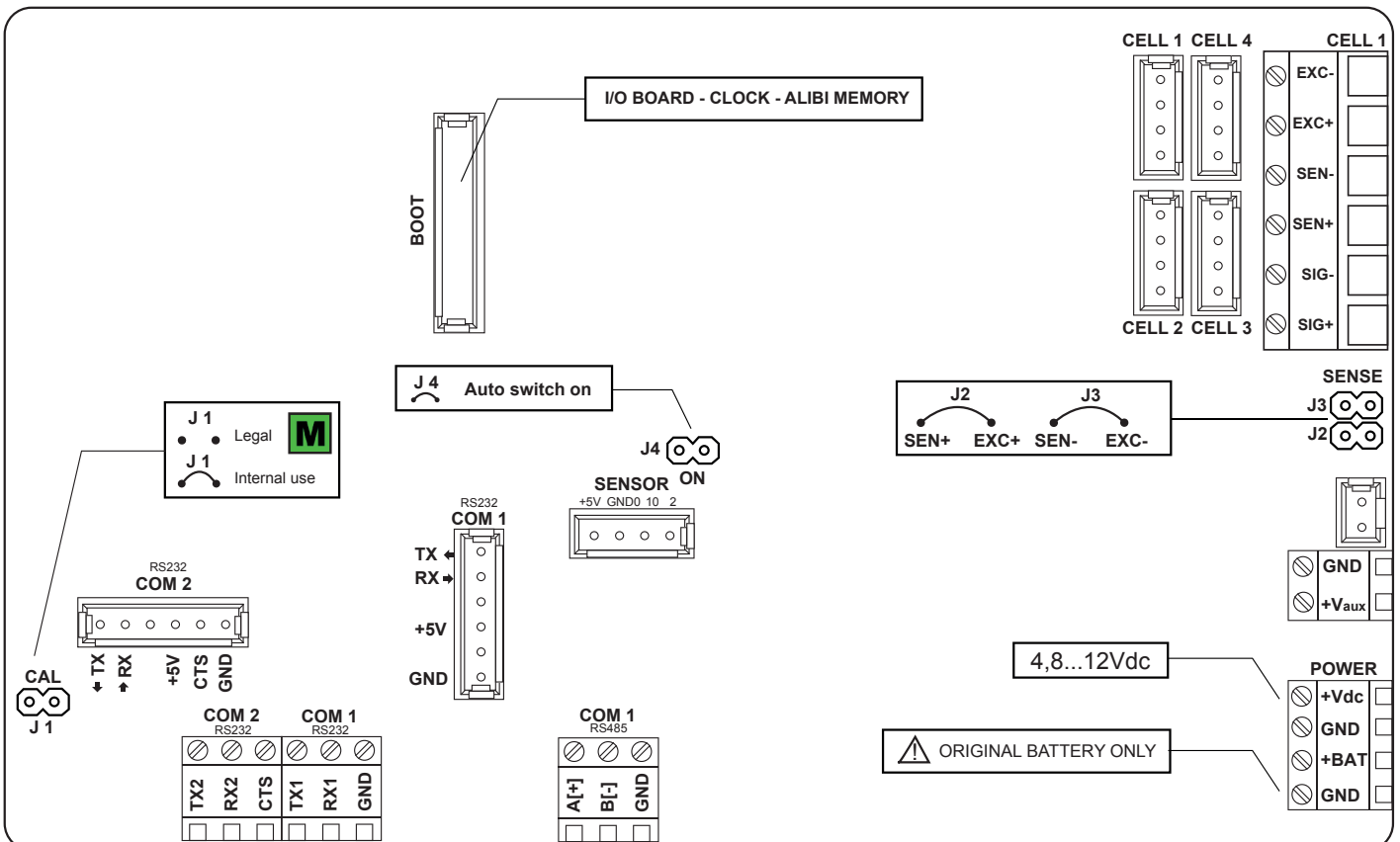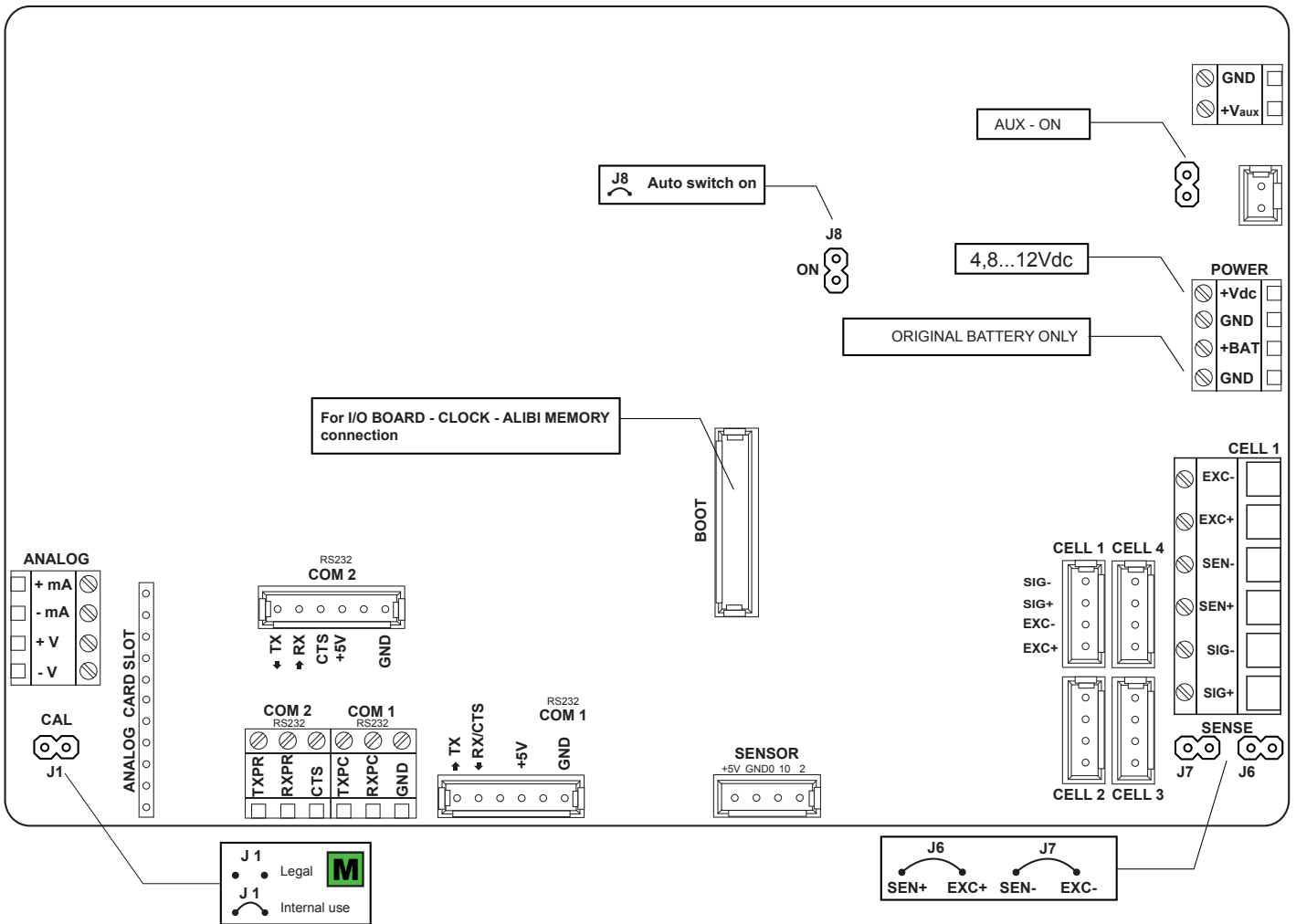**Examples** ALRD00000-000158<CR><LF>
1, 1500,0kg,   2,8kg<CR><LF>

8. WIRING SCHEMES

DFWLxxx, WLB, TPWNxxx, TPWLxxx, MCWNxxx.

DFWLIDxxx

DFWxxx, TPWxxx, MCWxxx.

GND
+Vaux

AUX - ON

J8 Auto switch on

J8
ON

4,8...12Vdc

POWER
+Vdc
GND
+BAT
GND

ORIGINAL BATTERY ONLY

For I/O BOARD - CLOCK - ALIBI MEMORY connection

BOOT

CELL 1
EXC-
EXC+
SEN-
SEN+
SIG-
SIG+

CELL 1   CELL 4
SIG-
SIG+
EXC-
EXC+

ANALOG
+ mA
- mA
+ V
- V

ANALOG CARD SLOT

RS232
COM 2
TX RX CTS +5V GND

CAL
J1

COM 2   COM 1
RS232   RS232
TXPR RXPR CTS TXPC RXPC GND

RS232
COM 1
TX RX/CTS +5V GND

SENSOR
+5V GND0 10 2

CELL 2   CELL 3

SENSE
J7 J6

J1 Legal M
J1 Internal use

J6   J7
SEN+ EXC+ SEN- EXC-

9. PROGRAMMING ERRORS

MESSAGE	DESCRIPTION	SOLUTION
RL.Err	Board "alibi memory" (optional) not detected.	Check the presence of the board inside the indicator. If present, check it is not damaged and is installed correctly.
Er.1.b.H Er.r.b.H	Board "inputs/outputs" (optional) not detected.	Check the presence of the board inside the indicator. If absent, deactivate any inputs or outputs (parameter " inPut5" or "outPut", *see page 31-32).* If present, check it is not damaged and is installed correctly.
E9.Err	Impossible to perform equalisation.	Check the cells are connected properly. Check the signal of each cell in the diagnostic menu (menu d iAG, parameter AdC.uU, *see page 33).*
PrEC.	Calibration error.	First calibrate the zero point, then proceed with the next points.
Err.Pnt	Calibration error.	Check the connection of the load cell. Check that the cell signal is stable, valid and greater than that of the previously acquired point.
Er 11	Calibration error.	Increase the calibration weight.
Er 12	Calibration error.	Check that the signal coming from the cell increases upon the increasing of the weight loaded on the scale. When acquiring the calibration points, use the increasing calibration weights.
Er 37	Calibration error.	Repeat the calibration, checking that the capacity and division have been correctly set.
Er 39	Instrument not configured.	Reset the factory configurations (menu AdUAnC, parameter dFLt.t, *see page 40).*
Er 85	Instrument configured but not calibrated.	Perform calibration.
C.Er. 36	Calibration error.	Check that the signal coming from the load cell is not negative.
Err.Mot	Weight unstable.	Check in menu d iAG, parameter AdC.uU *(see page 33)* that the signal is stable and re-try. If the connection of the cells is with 4 wires, check that the sense jumpers are inserted.

10. FAQ - FREQUENTLY ASKED QUESTIONS

Calibration

Can I change the maximum capacity without recalibrating?
Yes, you must change the parameters *rAnGE 1.2.3* (Q-1-4,5,6). *(See page 35)*

Can I change the division without recalibrating?
Yes, you must change the parameter *d iU* (Q-1-2). *(See page 35)*

Can I change the position of the decimal point without recalibrating?
Yes, you must change the parameter *dEC in* (Q-1-1) and the value of the calibration points via the pitch *CAL.MAn* (Q-5-6). *(See page 35 and 39)*

Can I calibrate the instrument in "multi-division" mode?
Yes, through advanced configuration from PC with Dinitools program.

Communication

Scale doesn't answer
- Check the good condition of the cable and that there are no failures (using a multimeter).
- Check that the PC communication port or of the device used is not compromised. If necessary, try with another device/PC
- Make sure to have connected the cable on the correct serial port.
- Check the configuration of the pitches *bAud* and *b it*. *(See page 13)*
- Temporarily activate the continuous communication and retry receiving the string. If the string has been received correctly, carefully check the syntax of the control sent, the communication time-outs and the presence of the terminator.

Generic

The scale does not switch on
- Check that the input voltage level to the mother board is correct.
- Try the forced power by inserting the "ON BOOT" jumper present on the mother board. If the indicator lights up, check the correct operation of the keyboard, using the diagnostic menu *d iAG*. *(See page 33)*
- Possible failure of the internal rechargeable battery (if present).

11. SUMMARY OF THE PARAMETERS

NOTES

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Authorized service center stamp